

## SEQUENCE LISTING

<110> Schlauder, George G  
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Mushawar, Isa K

<120> METHODS AND COMPOSITIONS FOR DETECTING HEPATITIS E  
VIRUS

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<150> US 09/173,141

<151> 1998-10-15

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&lt;212&gt; DNA

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gtcc

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&lt;213&gt; Artificial Sequence

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24

&lt;210&gt; 35

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&lt;212&gt; DNA

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&lt;223&gt; Description of Artificial Sequence: Primer 426-a3

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&lt;210&gt; 36

&lt;211&gt; 25

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&lt;213&gt; Artificial Sequence

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23

&lt;210&gt; 38

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&lt;212&gt; DNA

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&lt;212&gt; DNA

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Ser Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Val	
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Gln Thr Glu Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe	
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Arg Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn	
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Gly Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg	
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Cys Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala	
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Pro	Leu	Val	Ile	Glu	Arg	Val	Arg	Ala	Ile	Gly	Cys	His	Phe	Val	Leu	
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Leu	Leu	Thr	Ala	Ala	Pro	Glu	Pro	Ser	Pro	Met	Pro	Tyr	Val	Pro	Tyr	
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Trp	Asn	Ala	Ser	Glu	Asp	Ala	Leu	Thr	Ala	Xaa	Ile	Thr	Ala	Ala	Tyr	
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Gly	Met	Arg	Arg	Leu	Gly	Val	Glu	His	Ala	Gln	Lys	Phe	Ile	Thr	Arg	
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Arg	Gln	Leu	Gln	Phe	Tyr	Ala	Gln	Cys	Arg	Arg	Trp	Leu	Ser	Ala	Gly	
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Phe	His	Leu	Asp	Pro	Arg	Val	Leu	Val	Phe	Asp	Glu	Ser	Val	Pro	Cys	
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cgc	tgt	agg	acg	ttt	ttg	aag	aaa	ggt	gcg	ggg	aaa	ttc	tgc	tgt	ttt	1392
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Phe Ser Pro Pro Glu Ala Ala Ala Pro Ala Met Ala Ala Thr Pro Gly	
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Pro Pro Val His Lys Pro Ser Ile Pro Pro Pro Ser Arg Asn Arg Arg	
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gcc ggc ggt ggt ttc tgg agt gac agg gtt gat tct cag ccc ttc gcc	5287
Ala Gly Gly Gly Phe Trp Ser Asp Arg Val Asp Ser Gln Pro Phe Ala	
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ctc ccc tat att cat cca acc aac ccc ttc gcc gcc gat gtc gtt tca	5335
Leu Pro Tyr Ile His Pro Thr Asn Pro Phe Ala Ala Asp Val Val Ser	
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Gln Pro Gly Ala Gly Thr Arg Pro Arg Gln Pro Pro Arg Pro Leu Gly	
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Ser Ala Trp Arg Asp Gln Ser Lys Arg Pro Ser Val Ala Pro Arg Arg	
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Arg Ser Thr Pro Ala Gly Ala Ala Pro Leu Thr Ala Ile Ser Pro Ala	
1800 1805 1810 1815	

cct gat aca gct cct gta cct gat gtt gac tca cgt ggt gct att ttg	5527
Pro Asp Thr Ala Pro Val Pro Asp Val Asp Ser Arg Gly Ala Ile Leu	
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Arg Arg Gln Tyr Asn Leu Ser Thr Ser Pro Leu Thr Ser Ser Val Ala	
1835 1840 1845	
tct ggt act aat ctg gtt ctc tat gct gcc ccg ctg aac cct ctc ttg	5623
Ser Gly Thr Asn Leu Val Leu Tyr Ala Ala Pro Leu Asn Pro Leu Leu	
1850 1855 1860	
cct ctt cag gat ggc acc aac act cat att atg gct act gag gca tct	5671
Pro Leu Gln Asp Gly Thr Asn Thr His Ile Met Ala Thr Glu Ala Ser	
1865 1870 1875	
aat tac gcc cag tat cgg gtt gtt cgg gct acg att cgt tat cgc ccg	5719
Asn Tyr Ala Gln Tyr Arg Val Val Arg Ala Thr Ile Arg Tyr Arg Pro	
1880 1885 1890 1895	
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Leu Val Pro Asn Ala Val Gly Gly Tyr Ala Ile Ser Ile Ser Phe Trp	
1900 1905 1910	
cct caa act aca act acc cct act tct gtt gac atg aat tct atc act	5815
Pro Gln Thr Thr Thr Thr Pro Thr Ser Val Asp Met Asn Ser Ile Thr	
1915 1920 1925	
tct act gat gtc agg atc ttg gtc cag ccc ggt ata gcc tcc gag tta	5863
Ser Thr Asp Val Arg Ile Leu Val Gln Pro Gly Ile Ala Ser Glu Leu	
1930 1935 1940	
gtc atc cct agt gaa cgc ctt cac tac cgc aac caa ggc tgg cgc tct	5911
Val Ile Pro Ser Glu Arg Leu His Tyr Arg Asn Gln Gly Trp Arg Ser	
1945 1950 1955	
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Val Glu Thr Thr Gly Val Ala Glu Glu Glu Ala Thr Ser Gly Leu Val	
1960 1965 1970 1975	
atg ctt tgt att cat ggc tcc cct gtt aac tcc tac act aat aca cct	6007
Met Leu Cys Ile His Gly Ser Pro Val Asn Ser Tyr Thr Asn Thr Pro	
1980 1985 1990	
tac acc ggt gca ttg ggg ctt ctt gat ttt gca tta gaa ctt gaa ttt	6055
Tyr Thr Gly Ala Leu Gly Leu Leu Asp Phe Ala Leu Glu Leu Glu Phe	
1995 2000 2005	
aga aat ttg aca ccc ggg aac act aac acc cgt gtt tcc cgg tat act	6103
Arg Asn Leu Thr Pro Gly Asn Thr Asn Thr Arg Val Ser Arg Tyr Thr	
2010 2015 2020	
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Ser Thr Ala Arg His Arg Leu Arg Arg Gly Ala Asp Gly Thr Ala Glu	
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Leu Thr Thr Thr Ala Ala Thr Arg Phe Met Lys Asp Leu His Phe Thr	
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Gly Thr Asn Gly Val Gly Glu Val Gly Arg Gly Ile Ala Leu Thr Leu	
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ttt aat ctt gct gat acg ctt ctt ggt ggt tta ccg aca gaa ttg att	6295
Phe Asn Leu Ala Asp Thr Leu Leu Gly Gly Leu Pro Thr Glu Leu Ile	
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Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro Val Val Ser Ala	
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aat ggc gag cca aca gta aag tta tac aca tct gtt gag aat gcg cag	6391
Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val Glu Asn Ala Gln	
2105	2110 2115
caa gac aag ggc atc acc att cca cac gac ata gat tta ggt gac tcc	6439
Gln Asp Lys Gly Ile Thr Ile Pro His Asp Ile Asp Leu Gly Asp Ser	
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cgt gtg gtt atc cag gat tat gat aac cag cac gaa caa gat cga cct	6487
Arg Val Val Ile Gln Asp Tyr Asp Asn Gln His Glu Gln Asp Arg Pro	
2140	2145 2150
acc ccg tca cct gcc ccc tcc cgc cct ttc tca gtt ctt cgt gcc aat	6535
Thr Pro Ser Pro Ala Pro Ser Arg Pro Phe Ser Val Leu Arg Ala Asn	
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gat gtt ttg tgg ctg tct ctc act gcc gct gag tac grc cag acc acg	6583
Asp Val Leu Trp Leu Ser Leu Thr Ala Ala Glu Tyr Xaa Gln Thr Thr	
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tat ggg tcg tcc acc aac cct atg tat gtc tct gat aca gtc acg ctt	6631
Tyr Gly Ser Ser Thr Asn Pro Met Tyr Val Ser Asp Thr Val Thr Leu	
2185	2190 2195
ggt aat gta gcc act ggt gct cag gct gtt gcc cgc tct ctt gac tgg	6679
Val Asn Val Ala Thr Gly Ala Gln Ala Val Ala Arg Ser Leu Asp Trp	
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tct aaa gtt act ctg gat ggt cgc cct ctt act acc att cag cag tat	6727
Ser Lys Val Thr Leu Asp Gly Arg Pro Leu Thr Thr Ile Gln Gln Tyr	
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Ser Lys Lys Phe Tyr Val Leu Pro Leu Xaa Gly Lys Leu Ser Phe Trp	
2235	2240 2245
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Glu Ala Gly Thr Thr Lys Ala Gly Tyr Pro Tyr Asn Tyr Asn Thr Thr	
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<212> PRT
<213> Hepatitis E virus

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Gln Thr Glu Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe
      35             40             45
Arg Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn
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Glu Leu Glu Gln Tyr Cys Arg Ala Arg Ala Gly Arg Cys Leu Glu Val
  65             70             75             80
Gly Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg
      85             90             95
Cys Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala
      100            105            110
Pro Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly

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115					120					125					
Leu	Pro	Pro	Ala	Asp	Arg	Thr	Tyr	Cys	Phe	Asp	Gly	Phe	Ser	Arg	Cys
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Ala	Phe	Ala	Ala	Glu	Thr	Gly	Val	Ala	Leu	Tyr	Ser	Leu	His	Asp	Leu
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Trp	Pro	Ala	Asp	Val	Ala	Glu	Ala	Met	Ala	Arg	His	Gly	Xaa	Thr	Arg
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Leu	Tyr	Ala	Ala	Leu	His	Leu	Pro	Pro	Glu	Val	Leu	Leu	Pro	Pro	Gly
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Thr	Tyr	His	Thr	Thr	Ser	Tyr	Leu	Leu	Ile	His	Asp	Gly	Asp	Arg	Ala
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Val	Val	Thr	Tyr	Glu	Gly	Asp	Thr	Ser	Ala	Gly	Tyr	Asn	His	Asp	Val
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Ser	Ile	Leu	Arg	Ala	Trp	Ile	Arg	Thr	Thr	Lys	Ile	Val	Gly	Asp	His
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Pro	Leu	Val	Ile	Glu	Arg	Val	Arg	Ala	Ile	Gly	Cys	His	Phe	Val	Leu
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Leu	Leu	Thr	Ala	Ala	Pro	Glu	Pro	Ser	Pro	Met	Pro	Tyr	Val	Pro	Tyr
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Pro	Arg	Ser	Thr	Glu	Val	Tyr	Val	Arg	Ser	Ile	Phe	Gly	Pro	Gly	Gly
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Leu	Asp	Asp	Gln	Ala	Phe	Cys	Cys	Ser	Arg	Leu	Met	Thr	Tyr	Leu	Arg
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Gly	Ile	Ser	Tyr	Lys	Val	Thr	Val	Gly	Ala	Leu	Val	Ala	Asn	Glu	Gly
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Met	Arg	Trp	Leu	Gly	Gln	Glu	Cys	Thr	Cys	Phe	Leu	Glu	Pro	Ala	Glu				
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Glu	Val	Asp	Pro	Ala	Glu	Pro	Ala	His	Leu	Asp	Val	Ser	Gly	Thr	Tyr				
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Ala	Val	His	Gly	His	Gln	Leu	Glu	Ala	Leu	Tyr	Arg	Ala	Leu	Asn	Val				
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Pro	Gln	Asp	Ile	Ala	Ala	Arg	Ala	Ser	Arg	Leu	Thr	Ala	Thr	Val	Glu				
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Leu	Val	Ala	Ser	Pro	Asp	Arg	Leu	Glu	Cys	Arg	Thr	Val	Leu	Gly	Asn				
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Lys	Thr	Phe	Arg	Thr	Thr	Val	Val	Asp	Gly	Ala	His	Leu	Glu	Ala	Asn				
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Gly	Pro	Glu	Gln	Tyr	Val	Leu	Ser	Phe	Asp	Ala	Ser	Arg	Gln	Ser	Met				
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Gly	Ala	Gly	Ser	His	Ser	Leu	Thr	Tyr	Glu	Leu	Thr	Pro	Ala	Gly	Leu				
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Gly	Gly	Leu	Trp	Leu	His	Pro	Glu	Gly	Leu	Leu	Gly	Ile	Phe	Pro	Pro				
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Phe	Ser	Pro	Gly	His	Ile	Trp	Glu	Ser	Ala	Asn	Pro	Phe	Cys	Gly	Glu				
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Phe	Ser	Pro	Pro	Glu	Ala	Ala	Ala	Pro	Ala	Met	Ala	Ala	Thr	Pro	Gly				
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Phe	Glu	Ser	Asp	Cys	Asp	Trp	Leu	Val	Asn	Ala	Ser	Asn	Pro	Gly	His				
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Thr	Leu	Thr	Pro	Arg	Pro	Ile	Ile	His	Ala	Val	Ala	Pro	Asp	Tyr	Arg				
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Val	Glu	Gln	Asn	Pro	Lys	Arg	Leu	Glu	Ala	Ala	Tyr	Arg	Glu	Thr	Cys				
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Pro His Leu Leu Leu Leu His Met Gln Arg Ala Ser Ser Val His Leu	1045	1050	1055
Leu Gly Asp Pro Asn Gln Ile Pro Ala Ile Asp Phe Glu His Ala Gly	1060	1065	1070
Leu Val Pro Ala Ile Arg Pro Glu Leu Ala Pro Thr Ser Trp Trp Xaa	1075	1080	1085
Val Thr His Arg Cys Pro Ala Asp Val Cys Glu Leu Ile Arg Gly Ala	1090	1095	1100
Tyr Pro Lys Ile Gln Thr Thr Ser Arg Val Leu Arg Ser Leu Phe Trp	1105	1110	1115
Asn Glu Pro Ala Ile Gly Gln Lys Leu Val Xaa Thr Gln Ala Ala Lys	1125	1130	1135
Ala Ala Asn Pro Gly Ala Ile Thr Val His Glu Ala Gln Gly Ala Thr	1140	1145	1150
Phe Thr Glu Thr Thr Ile Ile Ala Thr Ala Asp Ala Arg Gly Leu Ile	1155	1160	1165
Gln Ser Ser Arg Ala His Ala Ile Val Ala Leu Thr Arg His Thr Glu	1170	1175	1180
Lys Cys Val Ile Leu Asp Ala Pro Gly Leu Leu Arg Glu Val Gly Ile	1185	1190	1195
Ser Asp Val Ile Val Asn Asn Phe Phe Leu Ala Gly Gly Glu Val Gly	1205	1210	1215
Xaa His Arg Pro Ser Val Ile Pro Arg Gly Asn Pro Asp Gln Asn Leu	1220	1225	1230
Gly Thr Leu Gln Ala Phe Pro Pro Ser Cys Gln Ile Ser Ala Tyr His	1235	1240	1245
Gln Leu Ala Glu Glu Leu Gly His Arg Pro Ala Pro Val Ala Ala Val	1250	1255	1260
Leu Pro Pro Cys Pro Glu Leu Glu Gln Gly Leu Leu Tyr Met Pro Gln	1265	1270	1275
Glu Leu Thr Val Ser Asp Ser Val Leu Val Phe Glu Leu Thr Asp Ile	1285	1290	1295
Val His Cys Arg Met Ala Ala Pro Ser Gln Arg Lys Ala Val Leu Ser	1300	1305	1310
Thr Leu Val Gly Arg Tyr Gly Arg Arg Thr Lys Leu Tyr Glu Ala Ala	1315	1320	1325
His Ser Asp Val Arg Glu Ser Leu Ala Arg Phe Ile Pro Thr Ile Gly			

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Val Glu Lys Gly Gln Asp Gly Ser Ala Val Leu Glu Leu Asp Leu Cys 1365	1370	1375
Asn Arg Asp Val Ser Arg Ile Thr Phe Phe Gln Lys Xaa Cys Asn Lys 1380	1385	1390
Phe Thr Thr Gly Glu Thr Ile Ala His Gly Lys Val Gly Gln Gly Ile 1395	1400	1405
Ser Ala Trp Ser Lys Thr Phe Cys Ala Leu Phe Gly Pro Trp Phe Arg 1410	1415	1420
Ala Ile Glu Lys Glu Ile Leu Ala Leu Leu Pro Pro Asn Ile Phe Tyr 425	1430	1435 1440
Gly Asp Ala Tyr Glu Glu Ser Val Phe Ala Ala Ala Val Ser Gly Ala 1445	1450	1455
Gly Ser Cys Met Val Phe Glu Asn Asp Phe Ser Glu Phe Asp Ser Thr 1460	1465	1470
Gln Asn Asn Phe Ser Leu Gly Leu Glu Cys Val Val Met Glu Glu Cys 1475	1480	1485
Gly Met Pro Gln Trp Leu Ile Arg Leu Tyr His Leu Val Arg Ser Ala 1490	1495	1500
Trp Ile Leu Gln Ala Pro Lys Glu Ser Leu Lys Gly Phe Trp Lys Lys 505	1510	1515 1520
His Ser Gly Glu Pro Gly Thr Leu Leu Trp Asn Thr Val Trp Asn Met 1525	1530	1535
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Phe Lys Gly Asp Asp Ser Val Val Leu Cys Ser Asp Tyr Arg Gln Ser 1555	1560	1565
Arg Asn Ala Ala Ala Leu Ile Ala Gly Cys Gly Leu Lys Leu Lys Val 1570	1575	1580
Asp Tyr Arg Pro Ile Gly Leu Tyr Ala Gly Val Val Val Ala Pro Gly 585	1590	1595 1600
Leu Gly Thr Leu Pro Asp Val Val Arg Phe Ala Gly Arg Leu Ser Glu 1605	1610	1615
Lys Asn Trp Gly Pro Gly Pro Glu Arg Ala Glu Gln Leu Arg Leu Ala 1620	1625	1630
Val Cys Asp Phe Leu Arg Gly Leu Thr Asn Val Ala Gln Val Cys Val		

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 Leu Ile Gly Met Leu Gln Thr Ile Ala Asp Gly Lys Ala His Phe Thr  
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 Val Glu

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 Arg Gly Arg Arg Ser Gly Gly Ala Gly Gly Gly Phe Trp Ser Asp Arg  
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 Val Asp Ser Gln Pro Phe Ala Leu Pro Tyr Ile His Pro Thr Asn Pro  
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 Phe Ala Ala Asp Val Val Ser Gln Pro Gly Ala Gly Thr Arg Pro Arg  
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 Pro Leu Thr Ser Ser Val Ala Ser Gly Thr Asn Leu Val Leu Tyr Ala  
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 Ala Pro Leu Asn Pro Leu Leu Pro Leu Gln Asp Gly Thr Asn Thr His  
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 Ile Met Ala Thr Glu Ala Ser Asn Tyr Ala Gln Tyr Arg Val Val Arg  
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 Ala Thr Ile Arg Tyr Arg Pro Leu Val Pro Asn Ala Val Gly Gly Tyr

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Val Asp Met Asn Ser Ile Thr Ser Thr Asp Val Arg Ile Leu Val Gln	225	230	235
Pro Gly Ile Ala Ser Glu Leu Val Ile Pro Ser Glu Arg Leu His Tyr	240	245	250
Arg Asn Gln Gly Trp Arg Ser Val Glu Thr Thr Gly Val Ala Glu Glu	255	260	265
Glu Ala Thr Ser Gly Leu Val Met Leu Cys Ile His Gly Ser Pro Val	270	275	280
Asn Ser Tyr Thr Asn Thr Pro Tyr Thr Gly Ala Leu Gly Leu Leu Asp	290	295	300
Phe Ala Leu Glu Leu Glu Phe Arg Asn Leu Thr Pro Gly Asn Thr Asn	305	310	315
Thr Arg Val Ser Arg Tyr Thr Ser Thr Ala Arg His Arg Leu Arg Arg	320	325	330
Gly Ala Asp Gly Thr Ala Glu Leu Thr Thr Thr Ala Ala Thr Arg Phe	335	340	345
Met Lys Asp Leu His Phe Thr Gly Thr Asn Gly Val Gly Glu Val Gly	350	355	360
Arg Gly Ile Ala Leu Thr Leu Phe Asn Leu Ala Asp Thr Leu Leu Gly	370	375	380
Gly Leu Pro Thr Glu Leu Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr	385	390	395
Ser Arg Pro Val Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr	400	405	410
Thr Ser Val Glu Asn Ala Gln Gln Asp Lys Gly Ile Thr Ile Pro His	415	420	425
Asp Ile Asp Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Asp Asn	430	435	440
Gln His Glu Gln Asp Arg Pro Thr Pro Ser Pro Ala Pro Ser Arg Pro	450	455	460
Phe Ser Val Leu Arg Ala Asn Asp Val Leu Trp Leu Ser Leu Thr Ala	465	470	475
Ala Glu Tyr Xaa Gln Thr Thr Tyr Gly Ser Ser Thr Asn Pro Met Tyr	480	485	490
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 Ala Gly Pro Thr Ser Xaa Ser Ala Val Gly Val Leu Ala Pro His Ser  
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 Ala Leu Ala Val Leu Glu Asp Thr Val Asp Tyr Pro Ala Arg Ala His  
                                     610                                      615                                      620  
 Thr Phe Asp Asp Phe Cys Pro Glu Cys Arg Thr Leu Gly Leu Gln Gly  
                                     625                                      630                                      635  
 Cys Ala Phe Gln Ser Thr Ile Ala Glu Leu Gln Arg Leu Lys Met Lys  
                                     640                                      645                                      650  
 Val Gly Lys Thr Arg Glu Ser  
                                     655                                      660

<210> 93  
 <211> 122  
 <212> PRT  
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<220>  
 <223> ORF3 HEV US-1

<400> 93  
 Met Asn Asn Met Ser Phe Ala Ser Pro Met Gly Ser Pro Cys Ala Leu  
   1                                      5                                      10                                      15  
 Gly Leu Phe Cys Cys Cys Ser Ser Cys Phe Cys Leu Cys Cys Pro Arg  
                                     20                                      25                                      30  
 His Arg Pro Val Ser Arg Leu Ala Val Ala Val Gly Gly Ala Ala Ala  
                                     35                                      40                                      45  
 Val Pro Ala Val Val Ser Gly Val Thr Gly Leu Ile Leu Ser Pro Ser  
                                     50                                      55                                      60  
 Pro Ser Pro Ile Phe Ile Gln Pro Thr Pro Ser Pro Pro Met Ser Phe  
   65                                      70                                      75                                      80

His Asn Pro Gly Leu Glu Leu Ala Leu Asp Ser Arg Pro Ala Pro Ser  
85 90 95

Val Pro Leu Gly Val Thr Ser Pro Ser Ala Pro Pro Leu Pro Pro Val  
100 105 110

Val Asp Leu Pro Gln Leu Gly Leu Arg Arg  
115 120

<210> 94  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer  
US5P3S/20

<400> 94  
tggcattact actgccattg 20

<210> 95  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer  
US5P45S/20

<400> 95  
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<210> 96  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer  
US5P296A

<400> 96  
aggaaacacc gatgcagaac 20

<210> 97  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer  
US5P243A/20

<400> 97  
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20

<210> 98  
<211> 199  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> Clone 199con

<400> 98  
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gattcttatt aatttgatgc aaccccgga gttggtcttc cgccctgagg tgctttggaa 120  
tcacacctatc cagcgggtta tacataatga attagagcag tactgccggg cccgggctgg 180  
tcgttgcttg gaggttgga 199

<210> 99  
<211> 25  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> JE orf1-s

<400> 99  
gttctgcatc ggtgtttcct tagac 25

<210> 100  
<211> 26  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> JE orf1-a

<400> 100  
gaatcaggag atacgaggtt gtgtgg 26

<210> 101  
<211> 331  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> us2-320

<400> 101  
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cctacccgtg gtccctgcggc caattgccgc cgctccgcgt tgcgtggtct ccccccctgtc 120  
gaccgcacct attgttttga tggattttcc cgttgtgctt ttgctgcaga gaccgggtgtg 180  
gccctttact ctttgcata cctttggcca gctgatgttg cagaggctat ggcccgccat 240  
gggatgacac gcttatacgc cgcactgcac cttccccccg aggtgctgct accacccggc 300  
acctaccaca caacctcgta tctcctgatt c 331

<210> 102  
<211> 1186  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> us2-1168

<400> 102  
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actaaattat atgaggcggc gcattcagat gtccgtgagt ccctagcgag gtttatcccc 180  
accatcgggc ctgttcgggc taccacatgt gagctgtacg agctgggtga agccatggta 240  
gagaagggtc aggacggatc tgccgtccta gagctcgacc tttgcaatcg tgacgtctcg 300  
cgcatcacat ttttccaaaa ggattgcaat aagtttataa ctggtgagac tatcgcccat 360  
ggcaagggtg gccagggcat atcggcctgg agcaagacct tctgtgctct gtttggtccc 420  
tggttccgcg ccattgaaaa ggaaatattg gccctactcc cgcctaatat cttttatggc 480  
gacgcctatg aggagtcatg gtttgcgtgc gctgtgtccg gggcagggtc atgtatggta 540  
tttgaaaatg acttctcaga gtttgacagt acccagaata atttctctct cggccttgag 600  
tgtgtgggta tggaggagtg cggcatgccc caatgggtta ttaggttgta ccatctggtc 660  
cggtcagcct ggattttgca ggcgccgaag gagtctctta aggggttttg gaagaagcac 720  
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ttgaagggtg attaccgccc tatcgggcta tatgctggag tgggtggtggc ccccggtttg 960  
gggacactgc ccgatgtggt gcgttttgcc ggtcgggttat ctgagaagaa ttggggccct 1020  
ggcccgagac gtgctgagca gctgcgtctt gctgtttgtg atttccttcg aggggttgacg 1080

aatgttgccg aggtctgtgt tgatgttggtg tcccggtgtct atggagttag ccccgggctg 1140  
gtacataacc ttattggcat gctgcagacc atcgccgatg gcaagg 1186

<210> 103  
<211> 23  
<212> DNA  
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<220>  
<223> JE hevdf2/3 s1

<400> 103  
gttccgcttg gcgtgaccag tcc 23

<210> 104  
<211> 23  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> JE hevdf2/3 a1

<400> 104  
gagtcaacat caggtacagg agc 23

<210> 105  
<211> 130  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> us2-135

<400> 105  
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cagctggggc tgcgccgctg actgccgtgt caccggctcc tgacacagct cctgtacctg 120  
atgttgactc 130

<210> 106  
<211> 26  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> JE hevdf1-s1

<400> 106  
gatgtcattt tgtgttgctg ctcacc 26

<210> 107  
 <211> 23  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> hev216 a1

<400> 107  
 cgtcctacag cggcatggta ctg

23

<210> 108  
 <211> 564  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-563

<400> 108  
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 ggccctggcg gctcccatc cttgtttcca tcagcctgct ctactaaatc tacctttcat 120  
 gctgtcccg ttcacatctg ggatcrgctc atgctctttg gtgccaccct gracgatcag 180  
 gcgttctgct gttcacggct tatgacttac ctccgtggta ttagttataa ggtcactgtc 240  
 ggtgcgcttg tcgctaata gaaggtggaac gcctctgagg atgctcttac tgcagtgatc 300  
 actgcggcct atctgaccat ctgccatcag cgttaccttc gcaccaggc gatttccaag 360  
 ggcatgcgcc ggttggaggt tgagcatgct cagaaattta tcacaagact ctacagctgg 420  
 ctatttgaga agtctggccg tgactacatc cccggccgcc agcttcaatt ttatgcacaa 480  
 tgccgacggt ggctttctgc aggtttccac ctaracccca ggrrtgcttgt ctttgatgaa 540  
 tcagtaccat gccgctgtag gacg 564

<210> 109  
 <211> 24  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> USorf2.1'

<400> 109  
 gtggagctag tacaccgacc gcag

24

<210> 110  
 <211> 678  
 <212> DNA

<213> Hepatitis E virus

<220>

<223> us2-667

<400> 110

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 cccgcccggg tgtctcagcc aatggcgagc caacagtaaa gttatataca tctgttgaga 120  
 atgcgagca agacaagggc atcaccattc cacatgatat agacctgggt gactcccgtg 180  
 tggttatcca ggattatgat aaccagcayg agcaagaccg acctactccg tcacctgccc 240  
 cctctcgccc cttctcagtt cttcgtgcc aatgatgttt gtggctttcc ctactgccc 300  
 ctgagtatga ccagactacg tatgggtcgt ccaccaacc tatgtatgct tctgacacag 360  
 ttacgcttgt taatgtggct actgggtgctc aggctgttgc ccgctccctt gattgggtcta 420  
 aagttactct ggacggccgc ccccttacta ccattcagca gtattctaag acattttatg 480  
 ttctcccgt cgcgggaag ctgtcctttt gggaggctgg cagactaag gccggctacc 540  
 cttacaatta taatactacc gctagtgacc aaattttgat tgagaatgcg gccggccacc 600  
 gtgtcgctat ttccacctat accactagct taggtgccgg tcctacctcg atctctgcgg 660  
 tcggtgtact agctccac 678

<210> 111

<211> 23

<212> DNA

<213> Hepatitis E virus

<220>

<223> hev3301s

<400> 111

gtatgcgagc tcatccgtgg tgc 23

<210> 112

<211> 25

<212> DNA

<213> Hepatitis E virus

<220>

<223> JE hev167-a1

<400> 112

ccaacacact atcggacaca gtgag 25

<210> 113

<211> 580

<212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-579

<400> 113  
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 tccctgtttt ggaacgaacc ggccatcggc caaaagttag tttttacgca ggctgctaag 120  
 gctgccaaacc ctgggtcgat tacggttcac gaagctcagg gtgctacttt cacggagacc 180  
 acaattatag ccacggccga cgctaggggc ctcatcagc catccccggc ccatgctata 240  
 gtcgcactca cccgccatac tgagaagtgt gttattttgg atgccccggc cttggtgcgc 300  
 gaggtcggca tttcggatgt tattgtcaat aactttttcc ttgccggtgg agaggtcggc 360  
 catcacccgc cttctgtgat acctcgcggc aatcctgac agaacctcg gactctacag 420  
 gcctttccgc cgtcatgtca gatcagtgt taccatcagt tggctgagga actaggtcat 480  
 cgccccggcc ctgtcgccgc cgtcttgccc ccttgccctg agcttgagca gggcctgctc 540  
 tatatgccac aagaactcac tgtgtccgat agtgtgttgg 580

<210> 114  
 <211> 26  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> HEV459 s1

<400> 114  
 cagaaattta tcacaagact ctacag 26

<210> 115  
 <211> 26  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> HEV459 s3

<400> 115  
 ctctacagtt ggctatttga gaagtc 26

<210> 116  
 <211> 25  
 <212> DNA  
 <213> Hepatitis E virus

&lt;220&gt;

&lt;223&gt; JE1955a

&lt;400&gt; 116

ctataaagag ctgagcagaa ggcgg

25

&lt;210&gt; 117

&lt;211&gt; 734

&lt;212&gt; DNA

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; us2-733

&lt;400&gt; 117

ctctacagtt ggctatttga gaagtctggc cgtgactaca tccccggccg ccagcttcaa 60  
 ttttatgcac aatgccgacg gtggctttct gcaggcttcc acctaraccc caggrtgctt 120  
 gtctttgatg aatcagtgcc atgccgttgc aggacgtttt tgaagaaggt cgcgggtaaa 180  
 ttctgctgtt ttatgcggtg gctggggcag gagtgtagct gcttcttgga gccagccgag 240  
 ggtttagttg gtgatcaagg tcatgacaac gaggcctatg aaggttctga ggtcgaccca 300  
 gctgagcctg cacatcttga tgtctcgggg acttatgccg tccatgggca ccagcttgag 360  
 gccctctata gggcacttaa tgtcccacat gatattgccg ctcgagcctc ccgactaacg 420  
 gctactgttg agctcgttgc tagtcgggac cgcttagagt gccgcactgt acttggtaat 480  
 aagaccttcc ggacgacggt ggttgatggc gcccatcttg aagcgaatgg ccctgaggag 540  
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 tatgagctca ccctgcccgg tctgcaggta aagatttcat ctaatggtct ggattgcact 660  
 gccacattcc ccccyggtgg cgcccctagc gccgcgccgg gggaggtggc cgccttctgc 720  
 tcagctcttt atag 734

&lt;210&gt; 118

&lt;211&gt; 22

&lt;212&gt; DNA

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; JE 2950mex s

&lt;400&gt; 118

gtgtccccgg ctctggcaag tc

22

&lt;210&gt; 119

&lt;211&gt; 22

<212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> JE us2-579-a2

<400> 119  
 caggggtggc agccttagca gc

22

<210> 120  
 <211> 483  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-482

<400> 120  
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 acacagcggc cctgtgtact atcgcccgcc gcgttgatgat tgatgaggct ccatctctcc 180  
 caccgcacct gctgctgtta cacatgcagc gggcctcctc ggtccatctc cttggtgatc 240  
 caaaccagat tctgtctatt gattttgagc atgccggcct ggtccccgcg atccgccccg 300  
 agcttgccgc aacgagctgg tggcacgtta cacaccgttg cccggccgat gtgtgcgagc 360  
 tcatacgtgg ggcctacccc aaaattcaga ccacgagccg tgtgctacgg tccctgtttt 420  
 ggaacgaacc ggccatcggc caaaagttgg tttttacgca ggctgctaag gctgccaacc 480  
 ctg

483

<210> 121  
 <211> 24  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> JE 2600s

<400> 121  
 taacccaaag aggcttgagg ctgc

24

<210> 122  
 <211> 22  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-482-a1

<400> 122  
ccgctgtgtg aggtgtgaag gc 22

<210> 123  
<211> 23  
<212> DNA  
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<220>  
<223> us2-482-a2

<400> 123  
gacgccagct gttacggagc tcc 23

<210> 124  
<211> 431  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> us2-430

<400> 124  
taaccctaaag aggcttgagg ctgcgtaccg ggaaacttgc tcccgtcgtg gcaccgctgc 60  
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ggaacgcaat caccgccccg gcgatgagct ttacttgaca gagcccgccg cagcctgggtt 180  
tgaggctaata aagccggcgc agccggcgct tactataact gaggacacgg cccgtacggc 240  
caacctggca ttagagattg atgccgccac agagggttggc cgtgcttgtg ccggctgcac 300  
catcagcccc gggattgtgc actatcagtt taccgcccgg gtcccgggct caggcaagtc 360  
aagggtccata caacagggag atgtcgatgt ggtggttgtg cccacccggg agctccgtaa 420  
cagctggcgt c 431

<210> 125  
<211> 22  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> us2-orf2/3 s1

<400> 125  
cgtcgtcgat ctgccccagc tg 22

<210> 126  
<211> 25

<212> DNA  
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<220>  
 <223> HEVConsORF2-a1

<400> 126  
 cttgttcrtg ytggttrtca taatc 25

<210> 127  
 <211> 21  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-orf2/3 s2

<400> 127  
 cgctgactgc cgtgtcaccg g 21

<210> 128  
 <211> 25  
 <212> DNA  
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<220>  
 <223> HEVConsORF2-a2

<400> 128  
 gttcrtgytg gttrtcataa tcctg 25

<210> 129  
 <211> 1020  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-1019

<400> 129  
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 cgggtactaa tttggtctc tatgctgcc cgctgaatcc cctcttgct ctccaggatg 180  
 gtaccaacac tcatattatg gctactgagg catccaatta tgcccagtat cgggttggtc 240  
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 tttctttctg gcccacaaact acaactaccc ctacttctgt cgatatgaat tctattactt 360  
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 ccctgacact gttcaatctc gctgatacgc ttctcggcgg tttaccgaca gaattgattt 840  
 cgtcggctgg gggccaactg ttttactccc gcccggttgt ctcagccaat ggcgagccaa 900  
 cagtaaagtt atatacatct gttgagaatg cgcagcaaga caagggcac accattccac 960  
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<210> 130  
 <211> 24  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2 330s1

<400> 130  
 cagctgatgt tgcagaggct atgg

24

<210> 131  
 <211> 24  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2 563a1

<400> 131  
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24

<210> 132  
 <211> 407  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-406

<400> 132  
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ttcacgatgg caaccgcgct gttgtaactt acgagggcga tactagtgcg ggctataatc 180  
 atgatgtctc catacttcgt gcatggatcc gtactactaa aatagttggt gaccatccat 240  
 tggatcataga gcgagtgcgg gccattgggt gtcattttgt gctgctgctc accgcagccc 300  
 ctgaaccgtc acctatgcct tatgttcctt accctcgttc aacggagggtg tatgtccggt 360  
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<210> 133  
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 <212> DNA  
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<220>  
 <223> us2-579 s1

<400> 133  
 cagaccacga gccgtgtgct ac 22

<210> 134  
 <211> 23  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-1168 a1

<400> 134  
 ccacaagcgt tgagagaaca gcc 23

<210> 135  
 <211> 22  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-579 s2

<400> 135  
 gctgctaagg ctgccaaccc tg 22

<210> 136  
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 <212> DNA  
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<220>  
 <223> us2-579wb

<400> 136

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 ttgttgcgcg aggtcggcat ttcggatggt attgtcaata actttttcct tgccgggtgga 240  
 gaggtcggcc atcaccgccc ttctgtgata cctcgcggca atcctgatca gaacctcggg 300  
 actctacagg cttttccgcc gtcattgtcag atcagtgtt accatcagtt ggctgaggaa 360  
 ctaggtcatc gcccgcccc tgtcgcggcc gtcttgcccc cttgcctga gcttgagcag 420  
 ggctgtctct atatgccaca agaacttact gtgtccgata gcgtgctggt ttttgagctt 480  
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 cttgtgg 547

<210> 137  
 <211> 24  
 <212> DNA  
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<220>  
 <223> us2-733s1

<400> 137  
 cacagcctca cttatgagct cacc 24

<210> 138  
 <211> 23  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-430a1

<400> 138  
 cggtgattgc gttcccaggc atc 23

<210> 139  
 <211> 26  
 <212> DNA  
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<220>  
 <223> us2-733s2

<400> 139  
 ctgcaggtaa agatttcacg taatgg 26

<210> 140  
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 <212> DNA  
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<220>  
 <223> us2-430a2

<400> 140  
 ccaggcatca aaactgaggc taac

24

<210> 141  
 <211> 903  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> us2-851

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Ile Lys Ala Pro Gly Ile Thr Thr Ala Ile Glu Gln Ala Ala Leu Ala
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Ala Ala Asn Ser Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu

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Leu	Val	Phe	Arg	Pro	Glu	Val	Leu	Trp	Asn	His	Pro	Ile	Gln	Arg	Val	
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Ile	His	Asn	Glu	Leu	Glu	Gln	Tyr	Cys	Arg	Ala	Arg	Ala	Gly	Arg	Cys	
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Leu	His	Arg	Cys	Phe	Leu	Arg	Pro	Val	Gly	Arg	Asp	Val	Gln	Arg	Trp	
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Tyr	Ser	Ala	Pro	Thr	Arg	Gly	Pro	Ala	Ala	Asn	Cys	Arg	Arg	Ser	Ala	
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Ser	Arg	Cys	Ala	Phe	Ala	Ala	Glu	Thr	Gly	Val	Ala	Leu	Tyr	Ser	Leu	
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Pro	Pro	Gly	Thr	Tyr	His	Thr	Thr	Ser	Tyr	Leu	Leu	Ile	His	Asp	Gly	
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Phe Val Leu Leu Leu Thr Ala Ala Pro Glu Pro Ser Pro Met Pro Tyr	
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Val Pro Tyr Pro Arg Ser Thr Glu Val Tyr Val Arg Ser Ile Phe Gly	
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Pro Gly Gly Ser Pro Ser Leu Phe Pro Ser Ala Cys Ser Thr Lys Ser	
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Thr Phe His Ala Val Pro Val His Ile Trp Asp Xaa Leu Met Leu Phe	
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Gly Ala Thr Leu Xaa Asp Gln Ala Phe Cys Cys Ser Arg Leu Met Thr	
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Tyr Leu Arg Gly Ile Ser Tyr Lys Val Thr Val Gly Ala Leu Val Ala	
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Val Pro Cys Arg Cys Arg Thr Phe Leu Lys Lys Val Ala Gly Lys Phe	
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Cys Cys Phe Met Arg Trp Leu Gly Gln Glu Cys Thr Cys Phe Leu Glu	
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Pro Ala Glu Gly Leu Val Gly Asp Gln Gly His Asp Asn Glu Ala Tyr	
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Glu Gly Ser Glu Val Asp Pro Ala Glu Pro Ala His Leu Asp Val Ser	
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Gly Thr Tyr Ala Val His Gly His Gln Leu Glu Ala Leu Tyr Arg Ala	
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Thr Val Glu Leu Val Ala Ser Pro Asp Arg Leu Glu Cys Arg Thr Val	
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Cys Gly Glu Gly Thr Leu Tyr Thr Arg Thr Trp Ser Thr Ser Gly Phe	
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Leu	Pro	Pro	Pro	Ser	Glu	Glu	Ser	His	Val	Asp	Ala	Ala	Ser	Val	Pro		
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Leu	Ala	Ala	Tyr	Thr	Leu	Thr	Pro	Arg	Pro	Ile	Ile	His	Ala	Val	Ala		
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Thr Glu Val Gly Arg Ala Cys	Ala Gly Cys Thr Ile	Ser Pro Gly Ile		
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Ser Ile Gln Gln Gly Asp Val	Asp Val Val Val	Pro Thr Arg Glu		
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Leu Arg Asn Ser Trp Arg Arg	Arg Gly Phe Ala Ala	Phe Thr Pro His		
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Thr Ala Ala Arg Val Thr Ile	Gly Arg Arg Val Val	Ile Asp Glu Ala		
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Ser Val His Leu Leu Gly Asp	Pro Asn Gln Ile Pro	Ala Ile Asp Phe		
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ctc	gac	ctt	t													

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ttt tgg aag aag cac tct ggt gag cct ggt acc ctt ctc tgg aac act Phe Trp Lys Lys His Ser Gly Glu Pro Gly Thr Leu Leu Trp Asn Thr 1530 1535 1540	4661
gtc tgg aac atg gcg att ata gca cat tgc tay gag ttc cgt gac ttt Val Trp Asn Met Ala Ile Ile Ala His Cys Xaa Glu Phe Arg Asp Phe 1545 1550 1555	4709
cgt gtt gcc gcc ttc aag ggt gat gat tca gtg gtc ctc tgt agt gac Arg Val Ala Ala Phe Lys Gly Asp Asp Ser Val Val Leu Cys Ser Asp 1560 1565 1570	4757
tac cga cag rgc cgt aac gcg gct gcc tta att gca ggc tgt ggg ctc Tyr Arg Gln Xaa Arg Asn Ala Ala Leu Ile Ala Gly Cys Gly Leu 1575 1580 1585 1590	4805
aaa ttg aag gtt gat tac cgc cct atc ggg cta tat gct gga gtg gtg Lys Leu Lys Val Asp Tyr Arg Pro Ile Gly Leu Tyr Ala Gly Val Val 1595 1600 1605	4853
gtg gcc ccc ggt ttg ggg aca ctg ccc gat gtg gtg cgt ttt gcc ggt Val Ala Pro Gly Leu Gly Thr Leu Pro Asp Val Val Arg Phe Ala Gly 1610 1615 1620	4901
cgg tta tct gag aag aat tgg ggc cct ggc ccg gag cgt gct gag cag	4949

Arg Leu Ser Glu Lys Asn Trp Gly Pro Gly Pro Glu Arg Ala Glu Gln	
1625 1630 1635	
ctg cgt ctt gct gtt tgt gat ttc ctt cga ggg ttg acg aat gtt gcg	4997
Leu Arg Leu Ala Val Cys Asp Phe Leu Arg Gly Leu Thr Asn Val Ala	
1640 1645 1650	
cag gtc tgt gtt gat gtt gtg tcc cgt gtc tat gga gtt agc ccc ggg	5045
Gln Val Cys Val Asp Val Val Ser Arg Val Tyr Gly Val Ser Pro Gly	
1655 1660 1665 1670	
ctg gta cat aac ctt att ggc atg ctg cag acc att gct gat ggc aag	5093
Leu Val His Asn Leu Ile Gly Met Leu Gln Thr Ile Ala Asp Gly Lys	
1675 1680 1685	
gcc cac ttt aca gar aat att aaa cct gtg ctt gac ctt aca aat tcc	5141
Ala His Phe Thr Xaa Asn Ile Lys Pro Val Leu Asp Leu Thr Asn Ser	
1690 1695 1700	
atc ata caa cgg gtg gaa tga ataacatgtc ttttgcacgc cccatgggat cacc	5196
Ile Ile Gln Arg Val Glu	
1705	
atg cgc cct agg gct gtt ctg ttg ttg ctc ttc gtg ctt ttg cct atg	5244
Met Arg Pro Arg Ala Val Leu Leu Leu Leu Phe Val Leu Leu Pro Met	
1710 1715 1720 1725	
ctg ccc gcg cca ccg gcc ggc cag ccg tct ggc cgc cgt cgt ggg ccg	5292
Leu Pro Ala Pro Pro Ala Gly Gln Pro Ser Gly Arg Arg Arg Gly Arg	
1730 1735 1740	
cgc agc ggc ggt gcc ggc ggt ggt ttc tgg ggt gac agg gtt gat tct	5340
Arg Ser Gly Gly Ala Gly Gly Gly Phe Trp Gly Asp Arg Val Asp Ser	
1745 1750 1755	
cag ccc ttc gcc ctc ccc tat att cat cca acc aac ccc ttc gcc gcc	5388
Gln Pro Phe Ala Leu Pro Tyr Ile His Pro Thr Asn Pro Phe Ala Ala	
1760 1765 1770	
gat gtc gtt tca caa ccc ggg gct gga act cgc cct cga cag ccg ccc	5436
Asp Val Val Ser Gln Pro Gly Ala Gly Thr Arg Pro Arg Gln Pro Pro	
1775 1780 1785	
cgc ccc ctt ggy tcc gct tgg cgt gac cag tcc cag cgc ccc tcc gct	5484
Arg Pro Leu Xaa Ser Ala Trp Arg Asp Gln Ser Gln Arg Pro Ser Ala	
1790 1795 1800 1805	
gcc ccc cgt cgt cga tct gcc cca gct ggg gct gcg ccg ctg act gcc	5532
Ala Pro Arg Arg Arg Ser Ala Pro Ala Gly Ala Ala Pro Leu Thr Ala	
1810 1815 1820	
gtg tca ccg gct cct gac aca gcc cct gta cct gat gtt gac tca cgt	5580
Val Ser Pro Ala Pro Asp Thr Ala Pro Val Pro Asp Val Asp Ser Arg	
1825 1830 1835	
ggt gct att ctg cgc ccg cag tac aat ttg tcc acg tcc ccg ctc acg	5628
Gly Ala Ile Leu Arg Arg Gln Tyr Asn Leu Ser Thr Ser Pro Leu Thr	

1840	1845	1850	
tca tct gtc gct tcg ggt act aat ttg gtc ctc tat gct gcc ccg ctg Ser Ser Val Ala Ser Gly Thr Asn Leu Val Leu Tyr Ala Ala Pro Leu 1855 1860 1865			5676
aat ccc ctc ttg cct ctc cag gat ggt acc aac act cat att atg gct Asn Pro Leu Leu Pro Leu Gln Asp Gly Thr Asn Thr His Ile Met Ala 1870 1875 1880 1885			5724
act gag gca tcc aat tat gcc cag tat cgg gtt gtt cga gct aca atc Thr Glu Ala Ser Asn Tyr Ala Gln Tyr Arg Val Val Arg Ala Thr Ile 1890 1895 1900			5772
cgt tat cgc ccg ctg gtg ccg aat gcc gtt ggt ggc tat gcc att tcc Arg Tyr Arg Pro Leu Val Pro Asn Ala Val Gly Gly Tyr Ala Ile Ser 1905 1910 1915			5820
att tct ttc tgg ccc caa act aca act acc cct act tct gtc gat atg Ile Ser Phe Trp Pro Gln Thr Thr Thr Pro Thr Ser Val Asp Met 1920 1925 1930			5868
aat tct att act tcc acy gat gtt agg att ttg gtt cag ccc ggt att Asn Ser Ile Thr Ser Xaa Asp Val Arg Ile Leu Val Gln Pro Gly Ile 1935 1940 1945			5916
gcc tcc gag cta gtc atc ccc agt gag cgc ctt cat tac cgt aat caa Ala Ser Glu Leu Val Ile Pro Ser Glu Arg Leu His Tyr Arg Asn Gln 1950 1955 1960 1965			5964
ggc tgg cgc tct gtt gag acc acg ggt gtg gct gag gag gag gct act Gly Trp Arg Ser Val Glu Thr Thr Gly Val Ala Glu Glu Glu Ala Thr 1970 1975 1980			6012
tcc ggt ctg gta atg ctt tgc att cat ggc tct cct gtt aat tcc tac Ser Gly Leu Val Met Leu Cys Ile His Gly Ser Pro Val Asn Ser Tyr 1985 1990 1995			6060
act aat aca cct tac act ggt gcg ctg ggg ctt ctt gat ttt gca cta Thr Asn Thr Pro Tyr Thr Gly Ala Leu Gly Leu Leu Asp Phe Ala Leu 2000 2005 2010			6108
gag ctt gaa ttt agg aat ttg aca ccc ggg aac acc aac acc cgt gtt Glu Leu Glu Phe Arg Asn Leu Thr Pro Gly Asn Thr Asn Thr Arg Val 2015 2020 2025			6156
tcc cgg tat acc agc aca gcc cgc cac cgg ctg cgc cgt ggt gct gat Ser Arg Tyr Thr Ser Thr Ala Arg His Arg Leu Arg Arg Gly Ala Asp 2030 2035 2040 2045			6204
ggg act gct gag ctt act acc aca gca gcc aca cgt ttc atg aag gac Gly Thr Ala Glu Leu Thr Thr Thr Ala Ala Thr Arg Phe Met Lys Asp 2050 2055 2060			6252
ctg cac ttc gct ggc acg aat ggc gtt ggt gag gtg ggt cgt ggt atc Leu His Phe Ala Gly Thr Asn Gly Val Gly Glu Val Gly Arg Gly Ile 2065 2070 2075			6300

gcc ctg aca ctg ttc aat ctc gct gat acg ctt ctc ggc ggt tta ccg Ala Leu Thr Leu Phe Asn Leu Ala Asp Thr Leu Leu Gly Gly Leu Pro 2080 2085 2090	6348
aca gaa ttg att tcg tcg gct ggg ggc caa ctg ttt tac tcc cgc ccg Thr Glu Leu Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro 2095 2100 2105	6396
gtt gtc tca gcc aat ggc gag cca aca gta aag tta tat aca tct gtt Val Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val 2110 2115 2120 2125	6444
gag aat gcg cag caa gac aag ggc atc acc att cca cat gat ata gac Glu Asn Ala Gln Gln Asp Lys Gly Ile Thr Ile Pro His Asp Ile Asp 2130 2135 2140	6492
ctg ggt gac tcc cgt gtg gtt atc cag gat tat gat aac cag cay gag Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Asp Asn Gln Xaa Glu 2145 2150 2155	6540
caa gac cga cct act ccg tca cct gcc ccc tct cgc ccc ttc tca gtt Gln Asp Arg Pro Thr Pro Ser Pro Ala Pro Ser Arg Pro Phe Ser Val 2160 2165 2170	6588
ctt cgt gcc aat gat gtt ttg tgg ctt tcc ctc act gcc gct gag tat Leu Arg Ala Asn Asp Val Leu Trp Leu Ser Leu Thr Ala Ala Glu Tyr 2175 2180 2185	6636
gac cag act acg tat ggg tcg tcc acc aac cct atg tat gtc tct gac Asp Gln Thr Thr Tyr Gly Ser Ser Thr Asn Pro Met Tyr Val Ser Asp 2190 2195 2200 2205	6684
aca gtt acg ctt gtt aat gtg gct act ggt gct cag gct gtt gcc cgc Thr Val Thr Leu Val Asn Val Ala Thr Gly Ala Gln Ala Val Ala Arg 2210 2215 2220	6732
tcc ctt gat tgg tct aaa gtt act ctg gac ggc cgc ccc ctt act acc Ser Leu Asp Trp Ser Lys Val Thr Leu Asp Gly Arg Pro Leu Thr Thr 2225 2230 2235	6780
att cag cag tat tct aag aca ttt tat gtt ctc ccg ctc cgc ggg aag Ile Gln Gln Tyr Ser Lys Thr Phe Tyr Val Leu Pro Leu Arg Gly Lys 2240 2245 2250	6828
ctg tcc ttt tgg gag gct ggc acg act aag gcc ggc tac cct tac aat Leu Ser Phe Trp Glu Ala Gly Thr Thr Lys Ala Gly Tyr Pro Tyr Asn 2255 2260 2265	6876
tat aat act acc gct agt gac caa att ttg att gag aat gcg gcc ggc Tyr Asn Thr Thr Ala Ser Asp Gln Ile Leu Ile Glu Asn Ala Ala Gly 2270 2275 2280 2285	6924
cac cgt gtc gct att tcc acc tat acc act agc tta ggt gcc ggt cct His Arg Val Ala Ile Ser Thr Tyr Thr Thr Ser Leu Gly Ala Gly Pro 2290 2295 2300	6972

acc tcg atc tct gcg gtc ggc gta ctg gct cca cac tct gcc ctt gcc 7020  
 Thr Ser Ile Ser Ala Val Gly Val Leu Ala Pro His Ser Ala Leu Ala  
                   2305                                  2310                                  2315

gtt ctt gag gat act att gat tac ccc gcc cgt gcc cat act ttt gat 7068  
 Val Leu Glu Asp Thr Ile Asp Tyr Pro Ala Arg Ala His Thr Phe Asp  
                   2320                                  2325                                  2330

gat ttt tgc ccg gag tgc cgt acc cta ggt ttg cag ggt tgt gca ttc 7116  
 Asp Phe Cys Pro Glu Cys Arg Thr Leu Gly Leu Gln Gly Cys Ala Phe  
                   2335                                  2340                                  2345

cag tct act att gct gag ctg cag cgt tta aaa atg aag gta ggt aaa 7164  
 Gln Ser Thr Ile Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys  
                   2350                                  2355                                  2360                                  2365

acc cgg gag tct taa ttaattcctt ctgtgcccc ttcgtagttt ctttcgcttt 7219  
 Thr Arg Glu Ser  
   2370

tattttcttat ttctgctttc cgcgctccct ggaaaaaaaa aaaaaaaaaa aaaaaaaaaa 7277

<210> 166

<211> 1708

<212> PRT

<213> Hepatitis E virus

<400> 166

Met Glu Ala His Gln Phe Ile Lys Ala Pro Gly Ile Thr Thr Ala Ile  
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Glu Gln Ala Ala Leu Ala Ala Ala Asn Ser Ala Leu Ala Asn Ala Val  
                                   20                                  25                                  30

Val Val Arg Pro Phe Leu Ser Arg Val Gln Thr Glu Ile Leu Ile Asn  
                   35                                  40                                  45

Leu Met Gln Pro Arg Gln Leu Val Phe Arg Pro Glu Val Leu Trp Asn  
                   50                                  55                                  60

His Pro Ile Gln Arg Val Ile His Asn Glu Leu Glu Gln Tyr Cys Arg  
                   65                                  70                                  75                                  80

Ala Arg Ala Gly Arg Cys Leu Glu Val Gly Ala His Pro Arg Ser Ile  
                                   85                                  90                                  95

Asn Asp Asn Pro Asn Val Leu His Arg Cys Phe Leu Arg Pro Val Gly  
                                   100                                  105                                  110

Arg Asp Val Gln Arg Trp Tyr Ser Ala Pro Thr Arg Gly Pro Ala Ala  
                   115                                  120                                  125

Asn Cys Arg Arg Ser Ala Leu Arg Gly Leu Pro Pro Val Asp Arg Thr  
                   130                                  135                                  140

Tyr Cys Phe Asp Gly Phe Ser Arg Cys Ala Phe Ala Ala Glu Thr Gly

145		150		155		160									
Val	Ala	Leu	Tyr	Ser	Leu	His	Asp	Leu	Trp	Pro	Ala	Asp	Val	Ala	Glu
				165					170					175	
Ala	Met	Ala	Arg	His	Gly	Met	Thr	Arg	Leu	Tyr	Ala	Ala	Leu	His	Leu
			180					185					190		
Pro	Pro	Glu	Val	Leu	Leu	Pro	Pro	Gly	Thr	Tyr	His	Thr	Thr	Ser	Tyr
		195					200					205			
Leu	Leu	Ile	His	Asp	Gly	Asn	Arg	Ala	Val	Val	Thr	Tyr	Glu	Gly	Asp
	210					215					220				
Thr	Ser	Ala	Gly	Tyr	Asn	His	Asp	Val	Ser	Ile	Leu	Arg	Ala	Trp	Ile
225					230					235					240
Arg	Thr	Thr	Lys	Ile	Val	Gly	Asp	His	Pro	Leu	Val	Ile	Glu	Arg	Val
			245						250					255	
Arg	Ala	Ile	Gly	Cys	His	Phe	Val	Leu	Leu	Leu	Thr	Ala	Ala	Pro	Glu
			260					265					270		
Pro	Ser	Pro	Met	Pro	Tyr	Val	Pro	Tyr	Pro	Arg	Ser	Thr	Glu	Val	Tyr
		275					280					285			
Val	Arg	Ser	Ile	Phe	Gly	Pro	Gly	Gly	Ser	Pro	Ser	Leu	Phe	Pro	Ser
	290					295					300				
Ala	Cys	Ser	Thr	Lys	Ser	Thr	Phe	His	Ala	Val	Pro	Val	His	Ile	Trp
305					310					315					320
Asp	Xaa	Leu	Met	Leu	Phe	Gly	Ala	Thr	Leu	Xaa	Asp	Gln	Ala	Phe	Cys
			325						330					335	
Cys	Ser	Arg	Leu	Met	Thr	Tyr	Leu	Arg	Gly	Ile	Ser	Tyr	Lys	Val	Thr
			340					345					350		
Val	Gly	Ala	Leu	Val	Ala	Asn	Glu	Gly	Trp	Asn	Ala	Ser	Glu	Asp	Ala
		355					360					365			
Leu	Thr	Ala	Val	Ile	Thr	Ala	Ala	Tyr	Leu	Thr	Ile	Cys	His	Gln	Arg
	370					375					380				
Tyr	Leu	Arg	Thr	Gln	Ala	Ile	Ser	Lys	Gly	Met	Arg	Arg	Leu	Glu	Val
385					390					395					400
Glu	His	Ala	Gln	Lys	Phe	Ile	Thr	Arg	Leu	Tyr	Ser	Trp	Leu	Phe	Glu
			405						410					415	
Lys	Ser	Gly	Arg	Asp	Tyr	Ile	Pro	Gly	Arg	Gln	Leu	Gln	Phe	Tyr	Ala
			420					425					430		
Gln	Cys	Arg	Arg	Trp	Leu	Ser	Ala	Gly	Phe	His	Leu	Xaa	Pro	Arg	Xaa
		435					440					445			
Leu	Val	Phe	Asp	Glu	Ser	Val	Pro	Cys	Arg	Cys	Arg	Thr	Phe	Leu	Lys

450	455	460
Lys Val Ala Gly Lys Phe Cys Cys Phe Met Arg Trp Leu Gly Gln Glu 465 470 475 480		
Cys Thr Cys Phe Leu Glu Pro Ala Glu Gly Leu Val Gly Asp Gln Gly 485 490 495		
His Asp Asn Glu Ala Tyr Glu Gly Ser Glu Val Asp Pro Ala Glu Pro 500 505 510		
Ala His Leu Asp Val Ser Gly Thr Tyr Ala Val His Gly His Gln Leu 515 520 525		
Glu Ala Leu Tyr Arg Ala Leu Asn Val Pro His Asp Ile Ala Ala Arg 530 535 540		
Ala Ser Arg Leu Thr Ala Thr Val Glu Leu Val Ala Ser Pro Asp Arg 545 550 555 560		
Leu Glu Cys Arg Thr Val Leu Gly Asn Lys Thr Phe Arg Thr Thr Val 565 570 575		
Val Asp Gly Ala His Leu Glu Ala Asn Gly Pro Glu Glu Tyr Val Leu 580 585 590		
Ser Phe Asp Ala Ser Arg Gln Ser Met Gly Ala Gly Ser His Ser Leu 595 600 605		
Thr Tyr Glu Leu Thr Pro Ala Gly Leu Gln Val Lys Ile Ser Ser Asn 610 615 620		
Gly Leu Asp Cys Thr Ala Thr Phe Pro Xaa Gly Gly Ala Pro Ser Ala 625 630 635 640		
Ala Pro Gly Glu Val Xaa Ala Phe Cys Ser Ala Leu Tyr Arg Tyr Asn 645 650 655		
Arg Phe Thr Gln Arg His Ser Leu Thr Gly Gly Leu Trp Leu His Pro 660 665 670		
Glu Gly Leu Leu Gly Ile Phe Pro Pro Phe Ser Pro Gly His Ile Trp 675 680 685		
Glu Ser Ala Asn Pro Phe Cys Gly Glu Gly Thr Leu Tyr Thr Arg Thr 690 695 700		
Trp Ser Thr Ser Gly Phe Ser Ser Asp Phe Ser Pro Pro Glu Ala Ala 705 710 715 720		
Ala Pro Ala Ser Ala Ala Ala Pro Gly Leu Pro Tyr Pro Thr Pro Pro 725 730 735		
Val Ser Asp Ile Trp Val Leu Pro Pro Pro Ser Glu Glu Ser His Val 740 745 750		
Asp Ala Ala Ser Val Pro Ser Val Pro Glu Pro Ala Gly Leu Thr Ser		

755					760					765				
Pro	Ile	Val	Leu	Thr	Pro	Pro	Pro	Pro	Pro	Pro	Val	Arg	Lys	Pro
770					775					780				
Ala	Thr	Ser	Pro	Pro	Pro	Arg	Thr	Arg	Arg	Leu	Leu	Tyr	Thr	Tyr
785					790					795				800
Asp	Gly	Ala	Lys	Val	Tyr	Ala	Gly	Ser	Leu	Xaa	Glu	Ser	Asp	Cys
				805					810					815
Trp	Leu	Val	Asn	Ala	Ser	Asn	Pro	Gly	His	Arg	Pro	Gly	Gly	Gly
			820					825					830	Leu
Cys	His	Ala	Phe	Tyr	Gln	Arg	Phe	Pro	Glu	Ala	Phe	Tyr	Ser	Thr
		835					840					845		Glu
Phe	Ile	Met	Arg	Glu	Gly	Leu	Ala	Ala	Tyr	Thr	Leu	Thr	Pro	Arg
		850				855					860			Pro
Ile	Ile	His	Ala	Val	Ala	Pro	Asp	Tyr	Arg	Val	Glu	Gln	Asn	Pro
865					870					875				880
Arg	Leu	Glu	Ala	Ala	Tyr	Arg	Glu	Thr	Cys	Ser	Arg	Arg	Gly	Thr
				885					890					895
Ala	Tyr	Pro	Leu	Leu	Gly	Ser	Gly	Ile	Tyr	Gln	Val	Pro	Val	Ser
			900					905					910	Leu
Ser	Phe	Asp	Ala	Trp	Glu	Arg	Asn	His	Arg	Pro	Gly	Asp	Glu	Leu
		915					920					925		Tyr
Leu	Thr	Glu	Pro	Ala	Ala	Ala	Trp	Phe	Glu	Ala	Asn	Lys	Pro	Ala
		930				935					940			Gln
Pro	Ala	Leu	Thr	Ile	Thr	Glu	Asp	Thr	Ala	Arg	Thr	Ala	Asn	Leu
945					950					955				960
Leu	Glu	Ile	Asp	Ala	Ala	Thr	Glu	Val	Gly	Arg	Ala	Cys	Ala	Gly
				965					970					975
Thr	Ile	Ser	Pro	Gly	Ile	Val	His	Tyr	Gln	Phe	Thr	Ala	Gly	Val
			980					985					990	Pro
Gly	Ser	Gly	Lys	Ser	Arg	Ser	Ile	Gln	Gln	Gly	Asp	Val	Asp	Val
		995					1000					1005		Val
Val	Val	Pro	Thr	Arg	Glu	Leu	Arg	Asn	Ser	Trp	Arg	Arg	Arg	Gly
		1010				1015					1020			Phe
Ala	Ala	Phe	Thr	Pro	His	Thr	Ala	Ala	Arg	Val	Thr	Ile	Gly	Arg
025					1030					1035				1040
Val	Val	Ile	Asp	Glu	Ala	Pro	Ser	Leu	Pro	Pro	His	Leu	Leu	Leu
				1045				1050					1055	
His	Met	Gln	Arg	Ala	Ser	Ser	Val	His	Leu	Leu	Gly	Asp	Pro	Asn
														Gln

1060	1065	1070
Ile Pro Ala Ile Asp Phe Glu His Ala Gly Leu Val Pro Ala Ile Arg 1075 1080 1085		
Pro Glu Leu Ala Pro Thr Ser Trp Trp His Val Thr His Arg Cys Pro 1090 1095 1100		
Ala Asp Val Cys Glu Leu Ile Arg Gly Ala Tyr Pro Lys Ile Gln Thr 105 1110 1115 1120		
Thr Ser Arg Val Leu Arg Ser Leu Phe Trp Asn Glu Pro Ala Ile Gly 1125 1130 1135		
Gln Lys Leu Val Phe Thr Gln Ala Ala Lys Ala Ala Asn Pro Gly Ala 1140 1145 1150		
Ile Thr Val His Glu Ala Gln Gly Ala Thr Phe Thr Glu Thr Thr Ile 1155 1160 1165		
Ile Ala Thr Ala Asp Ala Arg Gly Leu Ile Gln Ser Ser Arg Ala His 1170 1175 1180		
Ala Ile Val Ala Leu Thr Arg His Thr Glu Lys Cys Val Ile Leu Asp 185 1190 1195 1200		
Ala Pro Gly Leu Leu Arg Glu Val Gly Ile Ser Asp Val Ile Val Asn 1205 1210 1215		
Asn Phe Phe Leu Ala Gly Gly Glu Val Gly His His Arg Pro Ser Val 1220 1225 1230		
Ile Pro Arg Gly Asn Pro Asp Gln Asn Leu Gly Thr Leu Gln Ala Phe 1235 1240 1245		
Pro Pro Ser Cys Gln Ile Ser Ala Tyr His Gln Leu Ala Glu Glu Leu 1250 1255 1260		
Gly His Arg Pro Ala Pro Val Ala Ala Val Leu Pro Pro Cys Pro Glu 265 1270 1275 1280		
Leu Glu Gln Gly Leu Leu Tyr Met Pro Gln Glu Leu Thr Val Ser Asp 1285 1290 1295		
Ser Val Leu Val Phe Glu Leu Thr Asp Ile Val His Cys Arg Met Ala 1300 1305 1310		
Ala Pro Ser Gln Arg Lys Ala Val Leu Ser Thr Leu Val Gly Arg Tyr 1315 1320 1325		
Gly Arg Arg Thr Lys Leu Tyr Glu Ala Ala His Ser Asp Val Arg Glu 1330 1335 1340		
Ser Leu Ala Arg Phe Ile Pro Thr Ile Gly Pro Val Arg Ala Thr Thr 345 1350 1355 1360		
Cys Glu Leu Tyr Glu Leu Val Glu Ala Met Val Glu Lys Gly Gln Asp		

1365										1370					1375				
Gly	Ser	Ala	Val	Leu	Glu	Leu	Asp	Leu	Cys	Asn	Arg	Asp	Val	Ser	Arg				
1380								1385				1390							
Ile	Thr	Phe	Phe	Gln	Lys	Asp	Cys	Asn	Lys	Phe	Thr	Thr	Gly	Glu	Thr				
1395								1400				1405							
Ile	Ala	His	Gly	Lys	Val	Gly	Gln	Gly	Ile	Ser	Ala	Trp	Ser	Lys	Thr				
1410				1415								1420							
Phe	Cys	Ala	Leu	Phe	Gly	Pro	Trp	Phe	Arg	Ala	Ile	Glu	Lys	Glu	Ile				
425				1430								1435				1440			
Leu	Ala	Leu	Leu	Pro	Asn	Ile	Phe	Tyr	Gly	Asp	Ala	Tyr	Glu	Glu					
				1445				1450				1455							
Ser	Val	Phe	Ala	Ala	Ala	Val	Ser	Gly	Ala	Gly	Ser	Cys	Met	Val	Phe				
1460								1465				1470							
Glu	Asn	Asp	Phe	Ser	Glu	Phe	Asp	Ser	Thr	Gln	Asn	Asn	Phe	Ser	Leu				
1475								1480				1485							
Gly	Leu	Glu	Cys	Val	Val	Met	Glu	Glu	Cys	Gly	Met	Pro	Gln	Trp	Leu				
1490				1495								1500							
Ile	Arg	Leu	Tyr	His	Leu	Val	Arg	Ser	Ala	Trp	Ile	Leu	Gln	Ala	Pro				
505				1510								1515				1520			
Lys	Glu	Ser	Leu	Lys	Gly	Phe	Trp	Lys	Lys	His	Ser	Gly	Glu	Pro	Gly				
				1525				1530								1535			
Thr	Leu	Leu	Trp	Asn	Thr	Val	Trp	Asn	Met	Ala	Ile	Ile	Ala	His	Cys				
1540								1545				1550							
Xaa	Glu	Phe	Arg	Asp	Phe	Arg	Val	Ala	Ala	Phe	Lys	Gly	Asp	Asp	Ser				
1555								1560				1565							
Val	Val	Leu	Cys	Ser	Asp	Tyr	Arg	Gln	Xaa	Arg	Asn	Ala	Ala	Ala	Leu				
1570				1575								1580							
Ile	Ala	Gly	Cys	Gly	Leu	Lys	Leu	Lys	Val	Asp	Tyr	Arg	Pro	Ile	Gly				
585				1590								1595				1600			
Leu	Tyr	Ala	Gly	Val	Val	Val	Ala	Pro	Gly	Leu	Gly	Thr	Leu	Pro	Asp				
				1605				1610				1615							
Val	Val	Arg	Phe	Ala	Gly	Arg	Leu	Ser	Glu	Lys	Asn	Trp	Gly	Pro	Gly				
1620								1625				1630							
Pro	Glu	Arg	Ala	Glu	Gln	Leu	Arg	Leu	Ala	Val	Cys	Asp	Phe	Leu	Arg				
1635				1640								1645							
Gly	Leu	Thr	Asn	Val	Ala	Gln	Val	Cys	Val	Asp	Val	Val	Ser	Arg	Val				
1650				1655								1660							
Tyr	Gly	Val	Ser	Pro	Gly	Leu	Val	His	Asn	Leu	Ile	Gly	Met	Leu	Gln				

665                      1670                      1675                      1680  
 Thr Ile Ala Asp Gly Lys Ala His Phe Thr Xaa Asn Ile Lys Pro Val  
                                  1685                      1690                      1695

Leu Asp Leu Thr Asn Ser Ile Ile Gln Arg Val Glu  
                                  1700                      1705

<210> 167  
 <211> 660  
 <212> PRT  
 <213> Hepatitis E virus

<400> 167

Met Arg Pro Arg Ala Val Leu Leu Leu Leu Phe Val Leu Leu Pro Met  
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Leu Pro Ala Pro Pro Ala Gly Gln Pro Ser Gly Arg Arg Arg Gly Arg  
                                   20                                  25                                  30

Arg Ser Gly Gly Ala Gly Gly Gly Phe Trp Gly Asp Arg Val Asp Ser  
                                   35                                  40                                  45

Gln Pro Phe Ala Leu Pro Tyr Ile His Pro Thr Asn Pro Phe Ala Ala  
                                   50                                  55                                  60

Asp Val Val Ser Gln Pro Gly Ala Gly Thr Arg Pro Arg Gln Pro Pro  
   65                                  70                                  75                                  80

Arg Pro Leu Xaa Ser Ala Trp Arg Asp Gln Ser Gln Arg Pro Ser Ala  
                                   85                                  90                                  95

Ala Pro Arg Arg Arg Ser Ala Pro Ala Gly Ala Ala Pro Leu Thr Ala  
                                   100                                  105                                  110

Val Ser Pro Ala Pro Asp Thr Ala Pro Val Pro Asp Val Asp Ser Arg  
                                   115                                  120                                  125

Gly Ala Ile Leu Arg Arg Gln Tyr Asn Leu Ser Thr Ser Pro Leu Thr  
                                   130                                  135                                  140

Ser Ser Val Ala Ser Gly Thr Asn Leu Val Leu Tyr Ala Ala Pro Leu  
   145                                  150                                  155                                  160

Asn Pro Leu Leu Pro Leu Gln Asp Gly Thr Asn Thr His Ile Met Ala  
                                   165                                  170                                  175

Thr Glu Ala Ser Asn Tyr Ala Gln Tyr Arg Val Val Arg Ala Thr Ile  
                                   180                                  185                                  190

Arg Tyr Arg Pro Leu Val Pro Asn Ala Val Gly Gly Tyr Ala Ile Ser  
                                   195                                  200                                  205

Ile Ser Phe Trp Pro Gln Thr Thr Thr Thr Pro Thr Ser Val Asp Met  
   210                                  215                                  220

Asn	Ser	Ile	Thr	Ser	Xaa	Asp	Val	Arg	Ile	Leu	Val	Gln	Pro	Gly	Ile	225	230	235	240
Ala	Ser	Glu	Leu	Val	Ile	Pro	Ser	Glu	Arg	Leu	His	Tyr	Arg	Asn	Gln	245	250	255	
Gly	Trp	Arg	Ser	Val	Glu	Thr	Thr	Gly	Val	Ala	Glu	Glu	Glu	Ala	Thr	260	265	270	
Ser	Gly	Leu	Val	Met	Leu	Cys	Ile	His	Gly	Ser	Pro	Val	Asn	Ser	Tyr	275	280	285	
Thr	Asn	Thr	Pro	Tyr	Thr	Gly	Ala	Leu	Gly	Leu	Leu	Asp	Phe	Ala	Leu	290	295	300	
Glu	Leu	Glu	Phe	Arg	Asn	Leu	Thr	Pro	Gly	Asn	Thr	Asn	Thr	Arg	Val	305	310	315	320
Ser	Arg	Tyr	Thr	Ser	Thr	Ala	Arg	His	Arg	Leu	Arg	Arg	Gly	Ala	Asp	325	330	335	
Gly	Thr	Ala	Glu	Leu	Thr	Thr	Thr	Ala	Ala	Thr	Arg	Phe	Met	Lys	Asp	340	345	350	
Leu	His	Phe	Ala	Gly	Thr	Asn	Gly	Val	Gly	Glu	Val	Gly	Arg	Gly	Ile	355	360	365	
Ala	Leu	Thr	Leu	Phe	Asn	Leu	Ala	Asp	Thr	Leu	Leu	Gly	Gly	Leu	Pro	370	375	380	
Thr	Glu	Leu	Ile	Ser	Ser	Ala	Gly	Gly	Gln	Leu	Phe	Tyr	Ser	Arg	Pro	385	390	395	400
Val	Val	Ser	Ala	Asn	Gly	Glu	Pro	Thr	Val	Lys	Leu	Tyr	Thr	Ser	Val	405	410	415	
Glu	Asn	Ala	Gln	Gln	Asp	Lys	Gly	Ile	Thr	Ile	Pro	His	Asp	Ile	Asp	420	425	430	
Leu	Gly	Asp	Ser	Arg	Val	Val	Ile	Gln	Asp	Tyr	Asp	Asn	Gln	Xaa	Glu	435	440	445	
Gln	Asp	Arg	Pro	Thr	Pro	Ser	Pro	Ala	Pro	Ser	Arg	Pro	Phe	Ser	Val	450	455	460	
Leu	Arg	Ala	Asn	Asp	Val	Leu	Trp	Leu	Ser	Leu	Thr	Ala	Ala	Glu	Tyr	465	470	475	480
Asp	Gln	Thr	Thr	Tyr	Gly	Ser	Ser	Thr	Asn	Pro	Met	Tyr	Val	Ser	Asp	485	490	495	
Thr	Val	Thr	Leu	Val	Asn	Val	Ala	Thr	Gly	Ala	Gln	Ala	Val	Ala	Arg	500	505	510	
Ser	Leu	Asp	Trp	Ser	Lys	Val	Thr	Leu	Asp	Gly	Arg	Pro	Leu	Thr	Thr	515	520	525	

Ile Gln Gln Tyr Ser Lys Thr Phe Tyr Val Leu Pro Leu Arg Gly Lys  
530 535 540

Leu Ser Phe Trp Glu Ala Gly Thr Thr Lys Ala Gly Tyr Pro Tyr Asn  
545 550 555 560

Tyr Asn Thr Thr Ala Ser Asp Gln Ile Leu Ile Glu Asn Ala Ala Gly  
565 570 575

His Arg Val Ala Ile Ser Thr Tyr Thr Thr Ser Leu Gly Ala Gly Pro  
580 585 590

Thr Ser Ile Ser Ala Val Gly Val Leu Ala Pro His Ser Ala Leu Ala  
595 600 605

Val Leu Glu Asp Thr Ile Asp Tyr Pro Ala Arg Ala His Thr Phe Asp  
610 615 620

Asp Phe Cys Pro Glu Cys Arg Thr Leu Gly Leu Gln Gly Cys Ala Phe  
625 630 635 640

Gln Ser Thr Ile Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys  
645 650 655

Thr Arg Glu Ser  
660

<210> 168

<211> 122

<212> PRT

<213> Hepatitis E virus

<220>

<223> us2 orf3

<400> 168

Met Asn Asn Met Ser Phe Ala Ser Pro Met Gly Ser Pro Cys Ala Leu  
1 5 10 15

Gly Leu Phe Cys Cys Cys Ser Ser Cys Phe Cys Leu Cys Cys Pro Arg  
20 25 30

His Arg Pro Ala Ser Arg Leu Ala Ala Val Val Gly Gly Ala Ala Ala  
35 40 45

Val Pro Ala Val Val Ser Gly Val Thr Gly Leu Ile Leu Ser Pro Ser  
50 55 60

Pro Ser Pro Ile Phe Ile Gln Pro Thr Pro Ser Pro Pro Met Ser Phe  
65 70 75 80

His Asn Pro Gly Leu Glu Leu Ala Leu Asp Ser Arg Pro Ala Pro Leu  
85 90 95

Xaa Pro Leu Gly Val Thr Ser Pro Ser Ala Pro Pro Leu Pro Pro Val  
100 105 110

Val Asp Leu Pro Gln Leu Gly Leu Arg Arg  
 115 120

<210> 169  
 <211> 33  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> M 4-2

<400> 169  
 Ala Asn Gln Pro Gly His Leu Ala Pro Leu Gly Glu Ile Arg Pro Ser  
 1 5 10 15

Ala Pro Pro Leu Pro Pro Val Ala Asp Leu Pro Gln Pro Gly Leu Arg  
 20 25 30

Arg

<210> 170  
 <211> 48  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> M 3-2e

<400> 170  
 Thr Phe Asp Tyr Pro Gly Arg Ala His Thr Phe Asp Asp Phe Cys Pro  
 1 5 10 15

Glu Cys Arg Ala Leu Gly Leu Gln Gly Cys Ala Phe Gln Ser Thr Val  
 20 25 30

Ala Glu Leu Gln Arg Leu Lys Val Lys Val Gly Lys Thr Arg Glu Leu  
 35 40 45

<210> 171  
 <211> 33  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> B 4-2

<400> 171  
 Ala Asn Pro Pro Asp His Ser Ala Pro Leu Gly Val Thr Arg Pro Ser  
 1 5 10 15

Ala Pro Pro Leu Pro His Val Val Asp Leu Pro Gln Leu Gly Pro Arg  
                   20                  25                  30

Arg

<210> 172  
 <211> 48  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> B 3-2e

<400> 172  
 Thr Leu Asp Tyr Pro Ala Arg Ala His Thr Phe Asp Asp Phe Cys Pro  
   1                  5                  10                  15  
 Glu Cys Arg Pro Leu Gly Leu Gln Gly Cys Ala Phe Gln Ser Thr Val  
                   20                  25                  30  
 Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys Thr Arg Glu Leu  
           35                  40                  45

<210> 173  
 <211> 33  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> ORF3 (u4.2)

<400> 173  
 Asp Ser Arg Pro Ala Pro Ser Val Pro Leu Gly Val Thr Ser Pro Ser  
   1                  5                  10                  15

Ala Pro Pro Leu Pro Pro Val Val Asp Leu Pro Gln Leu Gly Leu Arg  
                   20                  25                  30

Arg

<210> 174  
 <211> 48  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> ORF2 (u3.2e)

&lt;400&gt; 174

Thr Val Asp Tyr Pro Ala Arg Ala His Thr Phe Asp Asp Phe Cys Pro  
 1 5 10 15

Glu Cys Arg Thr Leu Gly Leu Gln Gly Cys Ala Phe Gln Ser Thr Ile  
 20 25 30

Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys Thr Arg Glu Ser  
 35 40 45

&lt;210&gt; 175

&lt;211&gt; 33

&lt;212&gt; PRT

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; US 4-2

&lt;400&gt; 175

Asp Ser Arg Pro Ala Pro Ser Val Pro Leu Gly Val Thr Ser Pro Ser  
 1 5 10 15

Ala Pro Pro Leu Pro Pro Val Val Asp Leu Pro Gln Leu Gly Leu Arg  
 20 25 30

Cys

&lt;210&gt; 176

&lt;211&gt; 48

&lt;212&gt; PRT

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; US 3-2e

&lt;400&gt; 176

Thr Val Asp Tyr Pro Ala Arg Ala His Thr Phe Asp Asp Phe Cys Pro  
 1 5 10 15

Glu Cys Arg Thr Leu Gly Val Gln Gly Cys Ala Phe Gln Ser Thr Ile  
 20 25 30

Ala Glu Val Gln Arg Leu Lys Met Lys Val Gly Lys Thr Arg Glu Val  
 35 40 45

&lt;210&gt; 177

&lt;211&gt; 21

<212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> HEVConsORF1-s2

<400> 177  
 ctgccytkgc gaatgctgtg g 21

<210> 178  
 <211> 24  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> HEVConsORF1-a2

<400> 178  
 ggcagwrtac carcgctgaa catc 24

<210> 179  
 <211> 294  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> z12-orf1 (G.S.)

<400> 179  
 tggcattact actgccattg agcaagctgc tctggctgcg gccaatctctg ccttggcgaa 60  
 tgctgtggtg gttcggccgt ttttatctcg tttacagact gagattctta ttaatttgat 120  
 gcaacccccga cagttggtct ttcgacctga ggtgttctgg aaccatccca tccaacgtgt 180  
 tatacataat gaattggagc agtactgccg ggccccggcc ggtcgctgtc tggaaattgg 240  
 agcccatcca aggtcaatca atgataatcc taatgttctg catcggtgtt tcct 294

<210> 180  
 <211> 418  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> z12-orf1.con

<400> 180  
 ctggcattac tactgctatt gagcaagctg ctctgggtgc ggccaattct gccttggcga 60  
 atgctgtggt ggttcggccg tttttatctc gtttacagac tgagattctt attaatttga 120  
 tgcaacccccg acagttggtc tttcgacctg aggtgttctg gaaccatccc atccaacgtg 180

ttatacataa tgaattggag cagtactgcc gggcccgggc cggtcgctgt ctggaaattg 240  
gagcccatcc aaggtcaatc aatgataatc ctaatgttct gcatcgggtgc tttttaacgac 300  
cggtcggggag ggacgttcag cgctggtact ccgccccac ccgtagggccc gcggccaact 360  
gccgccgggtc tgcgctgcgt ggtctcccc ctgtcgaccg cacttactgc ctcgatgg 418

<210> 181  
<211> 197  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> z12-orf2.con

<400> 181  
gacagaatta atttcgtcgg ctgggggtca actgttctac tcccgccctg tcgtctcagc 60  
caatggcgag ccgactgtca agttatacac atctgttgag aatgcacagc aggataaggg 120  
gatagctatt ccacatgaca tagatttggg cgactctcgt ttggaatcc aggattatga 180  
taaccaacac gaacaag 197

<210> 182  
<211> 25  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> HEVConsORF2/3-s1

<400> 182  
gtatcgggkyk gaatgaataa catgt 25

<210> 183  
<211> 25  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> HEVConsORF2/3-a1

<400> 183  
aggggttggt tggatgaata taggg 25

<210> 184  
<211> 234  
<212> DNA  
<213> Hepatitis E virus

<220>

<223> z12-orf23.con

<400> 184

gtatcggktt gaatgaataa catgttttgt gcatcgccca tgggatcacc atgcgccta 60  
gggttgttct gttgttggtc ctctgttttc tgcctatgct gcccgcgcca ccggccggcc 120  
agycgactgg ccgccgtcgt gggcgggcgca gcggcggtgc cggcggtggt ttctggggtg 180  
acagggttga ttctcagccc ttcgcctccc cctatatcca tccaaccaac ccct 234

<210> 185

<211> 890

<212> DNA

<213> Hepatitis E virus

<220>

<223> z12-3p.race

<400> 185

gtcgtctcgg ccaatggcga gccgactgtc aagttataca catctgttga gaatgcacag 60  
caggataagg ggatagctat tccacatgac atagatttgg gcgactctcg tttggtaatc 120  
caggattacg ataatcagca cgagcaggac cggcccaccc ctctgcccgc cccgtctcgt 180  
cctttctcgg tcctccgcgc taatgatgct ttgtggcttt ctcttaccgc tgctgagtat 240  
gaccagacta catatgggtc gtccaccaac ccgatgtatg tctcagacac tgttacattt 300  
gtcaatgtgg ccacaggggc tcaggctgtc gcccgttctc ttgattgggc taaagttacc 360  
ctggacggcc gccctcttac taccatccag cagtactcta agacatttta tgttctccca 420  
cttcgcggga agttatcttt ttgggaggct ggcacaacta aagccggtta cccttataat 480  
tataacacaa ctgctagtga ccagattctg attgaaaacg cggctggcca tcgtgtcgct 540  
atatctactt atactactag cctgggcgcc ggccctgtgt cagtttctgc ggttggtgtg 600  
ttagcccccac actcgagcct tgctattctt gaagacactg ttgactatcc ggcccggtgct 660  
cacacttttg atgacttctg tccggaatgc cgtgccctgg gtctgcaggg gtgtgctttt 720  
caatctacta tcgctgagct ccagcgtctt aaaatgaagg taggcaaaac ccgggagttt 780  
taattaattc ttcttgtgcc ccttcaagg ttctcgcttt atttctttct tctgcctccc 840  
gcgctccctg gaaaaaaaaa aaaaaaaaaa gtactagtgc acgcgtggcc 890

<210> 186

<211> 919

<212> DNA

<213> Hepatitis E virus

&lt;220&gt;

&lt;223&gt; z12-3p.con

&lt;400&gt; 186

gacagaatta atttcgtcgg ctgggggtca actgttctac tcccgccttg tcgtctcage 60  
 caatggcgag ccgactgtca agttatacac atctgttgag aatgcacage aggataaggg 120  
 gatagctatt ccacatgaca tagatttggg cgactctcgt ttggtaatcc aggattacga 180  
 taatcagcac gagcaggacc ggcccacccc ttgcgccgcc ccgtctcgtc ctttctcggg 240  
 cctccgcgct aatgatgctt tgtggctttc tcttaccgct gctgagtatg accagactac 300  
 atatgggtcg tccaccaacc cgatgtatgt ctcagacact gttacatttg tcaatgtggc 360  
 cacaggggct caggctgtcg cccgttctct tgattggtct aaagttaccg tggacggccg 420  
 ccctcttact accatccage agtactctaa gacattttat gttctccac ttcgcgggaa 480  
 gttatctttt tgggaggctg gcacaactaa agccgggttac cttataatt ataacacaa 540  
 tgctagtac cagattctga ttgaaaacgc ggctggccat cgtgtcgcta tatctactta 600  
 tactactagc ctgggcgcgc gccctgtgtc agtttctgcg gttggtgtgt tagccccaca 660  
 ctcgagcctt gctattcttg aagacactgt tgactatccg gcccggtgct acacttttga 720  
 tgacttctgt ccggaatgcc gtgccctggg tctgcagggg tgtgcttttc aatctactat 780  
 cgctgagctc cagcgtctta aaatgaaggt aggcaaaacc cgggagtttt aattaattct 840  
 tcttgtgccc ccttcacggt tctcgcttta tttctttctt ctgcctcccg cgctccctgg 900  
 aaaaaaaaaa aaaaaaaaaa 919

&lt;210&gt; 187

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; z12-orf1.pep

&lt;400&gt; 187

Gly Ile Thr Thr Ala Ile Glu Gln Ala Ala Leu Gly Ala Ala Asn Ser  
 1 5 10 15  
 Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Leu Gln  
 20 25 30  
 Thr Glu Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe Arg  
 35 40 45  
 Pro Glu Val Phe Trp Asn His Pro Ile Gln Arg Val Ile His Asn Glu  
 50 55 60

Leu Glu Gln Tyr Cys Arg Ala Arg Ala Gly Arg Cys Leu Glu Ile Gly  
 65 70 75 80  
 Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg Cys  
 85 90 95  
 Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala Pro  
 100 105 110  
 Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly Leu  
 115 120 125  
 Pro Pro Val Asp Arg Thr Tyr Cys Leu Asp  
 130 135

<210> 188  
 <211> 61  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> z12-orf2-5'.pep

<400> 188  
 Met Arg Pro Arg Val Val Leu Leu Leu Phe Leu Val Phe Leu Pro Met  
 1 5 10 15  
 Leu Pro Ala Pro Pro Ala Gly Gln Xaa Thr Gly Arg Arg Arg Gly Arg  
 20 25 30  
 Arg Ser Gly Gly Ala Gly Gly Gly Phe Trp Gly Asp Arg Val Asp Ser  
 35 40 45  
 Gln Pro Phe Ala Leu Pro Tyr Ile His Pro Thr Asn Pro  
 50 55 60

<210> 189  
 <211> 276  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> z12-orf2-3'.pep

<400> 189  
 Thr Glu Leu Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro  
 1 5 10 15  
 Val Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val  
 20 25 30  
 Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp  
 35 40 45

Leu Gly Asp Ser Arg Leu Val Ile Gln Asp Tyr Asp Asn Gln His Glu  
50 55 60

Gln Asp Arg Pro Thr Pro Ser Pro Ala Pro Ser Arg Pro Phe Ser Val  
65 70 75 80

Leu Arg Ala Asn Asp Ala Leu Trp Leu Ser Leu Thr Ala Ala Glu Tyr  
85 90 95

Asp Gln Thr Thr Tyr Gly Ser Ser Thr Asn Pro Met Tyr Val Ser Asp  
100 105 110

Thr Val Thr Phe Val Asn Val Ala Thr Gly Ala Gln Ala Val Ala Arg  
115 120 125

Ser Leu Asp Trp Ser Lys Val Thr Leu Asp Gly Arg Pro Leu Thr Thr  
130 135 140

Ile Gln Gln Tyr Ser Lys Thr Phe Tyr Val Leu Pro Leu Arg Gly Lys  
145 150 155 160

Leu Ser Phe Trp Glu Ala Gly Thr Thr Lys Ala Gly Tyr Pro Tyr Asn  
165 170 175

Tyr Asn Thr Thr Ala Ser Asp Gln Ile Leu Ile Glu Asn Ala Ala Gly  
180 185 190

His Arg Val Ala Ile Ser Thr Tyr Thr Thr Ser Leu Gly Ala Gly Pro  
195 200 205

Val Ser Val Ser Ala Val Gly Val Leu Ala Pro His Ser Ser Leu Ala  
210 215 220

Ile Leu Glu Asp Thr Val Asp Tyr Pro Ala Arg Ala His Thr Phe Asp  
225 230 235 240

Asp Phe Cys Pro Glu Cys Arg Ala Leu Gly Leu Gln Gly Cys Ala Phe  
245 250 255

Gln Ser Thr Ile Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys  
260 265 270

Thr Arg Glu Phe  
275

<210> 190

<211> 74

<212> PRT

<213> Hepatitis E virus

<220>

<223> z12-orf3.pep

<400> 190

Met Asn Asn Met Phe Cys Ala Ser Pro Met Gly Ser Pro Cys Ala Leu  
1 5 10 15

Gly Leu Phe Cys Cys Cys Ser Ser Cys Phe Cys Leu Cys Cys Pro Arg  
                   20                  25                  30

His Arg Pro Ala Ser Arg Leu Ala Ala Val Val Gly Gly Ala Ala Ala  
           35                  40                  45

Val Pro Ala Val Val Ser Gly Val Thr Gly Leu Ile Leu Ser Pro Ser  
       50                  55                  60

Pro Ser Pro Ile Phe Ile Gln Pro Thr Pro  
       65                  70

<210> 191  
 <211> 408  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> pJOorf3-29.seq

<400> 191  
 gaattcatga ataacatgtc ttttgcacgc cccatgggat caccatgcgc cctagggctg 60  
 ttctgttggt gctcttcgtg cttttgccta tgetgcccgc gccaccggcc agccagccgt 120  
 ctggccgccc tctggggcgg cgcagcggcg gtgcccggcg tggtttctgg ggtgacaggg 180  
 ttgattctca gcccttcgcc ctccctata ttcattcaac caacccttc gccgccgatg 240  
 tcgtttcaca acccggggct ggaactcgcc ctgcacagcc gcccgcgcc cttgggtccg 300  
 cttggcgtga ccagtccag cgccctccg ctgccccccg tcgtcgatct gcccagctt 360  
 ggtctgcgcc gcgactacaa ggacgacgat gacaagtaat aaggatcc 408

<210> 192  
 <211> 1026  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> cksorf2m-2.seq

<400> 192  
 gaattcatgg gtgctgatgg gactgctgag cttactacca cagcagccac acgtttcatg 60  
 aaggacctgc acttcgctgg cacgaatggc gttggtgagg tgggtcgtgg tatcgccctg 120  
 aactgttca atctcgctga tacgcttctc ggcggtttac cgacagaatt gatttcgctg 180  
 gctggggggc aactgtttta ctcccgccc gttgtctcag ccaatggcga gccaacagta 240  
 aagttatata catctgttga gaatgcgcag caagacaagg gcatcaccat tccacatgat 300

atagacctgg gtgactcccg tgtgggttata caggattatg ataaccagca tgagcaagac 360  
 cgacctactc cgtcacctgc cccctctcgc cccttctcag ttcttcgtgc caatgatgtt 420  
 ttgtggcttt ccctcactgc cgctgagtat gaccagacta cgtatgggtc gtccaccaac 480  
 cctatgtatg tctctgacac agttaagctt gttaatgtgg ctactgggtc tcaggetgtt 540  
 gcccgtccc ttgattggtc taaagttact ctggacggcc gccccttac taccattcag 600  
 cagtattcta agacatttta tgttctcccg ctccgcggga agctgtcctt ttgggaggct 660  
 ggcacgacta aggcgggcta cccttacaat tataatacta ccgctagtga ccaaattttg 720  
 attgagaatg cggccggcca ccgtgtcgtt atttccacct ataccactag cttaggtgcc 780  
 ggtcctacct cgatctctgc ggtcggcgta ctggtccac actctgccct tgccgttctt 840  
 gaggatacta ttgattaccc cgcccgtgcc catacttttg atgatttttg cccggagtgc 900  
 cgtaccctag gtttgcaggg ttgtgcattc cagtctacta ttgctgagct ccagcgttta 960  
 aaaatgaagg taggtaaaac ccgggagttt gactacaagg acgacgatga caagtaataa 1020  
 ggatcc 1026

<210> 193  
 <211> 1389  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> CKSORF32M-3.seq

<400> 193  
 gaattcatga ataacatgtc ttttgcacgc cccatgggat caccatgcgc cctagggctg 60  
 ttctgttggt gctcttcgtg cttttgcta tgcgtccgc gccaccggcc agccagccgt 120  
 ctggccgccg tcgtgggcgg cgtagcggcg gtgcccggcg tggtttctgg ggtgacaggg 180  
 ttgattctca gcccttcgcc ctccctata ttcattcaac caacccttc gccgccgatg 240  
 tcgtttcaca acccgggggt ggaactcgcc ctgcacagcc gcccgcgcc cttgggtccg 300  
 cttggcgtga ccagtcaccg cgccttcgc ctgcccccg tcgtcgatct gcccagctt 360  
 ggtctgcgcc gcggtgctga tgggactgct gagcttacta ccacagcagc cacacgtttc 420  
 atgaaggacc tgcacttcgc tggcacgaat ggcgttggtg aggtgggtcg tggtatcgcc 480  
 ctgacactgt tcaatctcgc tgatacgtt ctggcggtt taccgacaga attgatttcg 540  
 tcggctgggg gccaaactgt ttactccgc ccggttgtct cagccaatgg cgagccaaca 600  
 gtaaagttat atacatctgt tgagaatgcg cagcaagaca agggcatcac cattccacat 660

gatatagacc tgggtgactc ccgtgtggtt atccaggatt atgataacca gcatgagcaa 720  
gaccgaccta ctccgtcacc tgccccctct cgtcccttct cagttcttcg tgccaatgat 780  
gttttgtggc tttccctcac tgccgctgag tatgaccaga ctacgtatgg gtcgtccacc 840  
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cttgaggata ctattgatta ccccgcccgt gcccatactt ttgatgattt ttgccgggag 1260  
tgccgtaccc taggtttgca gggttgtgca ttccagtcta ctattgctga gctccagcgt 1320  
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taaggatcc 1389

<210> 194  
<211> 408  
<212> DNA  
<213> Hepatitis E virus

<220>  
<223> plorf3-12.con

<400> 194  
gaattcatga ataacatgtc ttttgcacg cccatgggat caccatgcgc cctagggctg 60  
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ctggccgccc tegtgggcgg cgcagcggcg gtgcgycgg tggtttctgg ggtgacaggg 180  
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tcgtttcaca acccgggggt ggaactcgcc ctgcacagcc gccccgcccc cttggctccg 300  
cttggcgtga ccagtcccag cgtccctccg ctgccccccg tcgtcgatct gcccagctt 360  
ggctctgcgc gccgactacaa ggacgacgat gacaagtaat aaggatcc 408

<210> 195  
<211> 1026  
<212> DNA  
<213> Hepatitis E virus

&lt;220&gt;

&lt;223&gt; plorf2.2-6.seq

&lt;400&gt; 195

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gaattcatgg gtgctgatgg gactgctgag cttactacca cagcagccac acgtttcatg 60
aaggacctgc acttcgctgg cacgaatggc gttggtgagg tgggtcgtgg tatcgccctg 120
aactgtttca atctcgctga tacgcttctc ggcggtttac cgacagaatt gatttcgctg 180
gctggggggcc aactgtttta ctcccgcccg gttgtctcag ccaatggcga gccaacagta 240
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ttgtggcttt ccctcactgc cgctgagtat gaccagacta cgtatgggtc gtccaccaac 480
cctatgtatg tctctgacac agttacgctt gttaatgtgg ctactgggtc tcaggctggt 540
gcccgtctcc ttgattgggtc taaagttact ctggacggcc gcccccttac taccattcag 600
cagtattcta agacatttta tgttctcccg ctccgcggga agctgtcctt ttgggagggt 660
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cgtaccctag gtttgcaggg ttgtgcattc cagtctacta ttgctgagct ccagcgttta 960
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ggatcc

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1026

&lt;210&gt; 196

&lt;211&gt; 1389

&lt;212&gt; DNA

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; PLORF32M-14-5.seq

&lt;400&gt; 196

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gaattcatga ataacatgtc ttttgcacgc cccatgggat caccatgcgc cctagggctg 60
ttctgttggt gctcttcgtg cttttgccta tgctgcccgc gccaccggcc agccagccgt 120
ctggccgccc tcgtgggcgg cgtagcggcg gtgcggcgcg tggtttctgg ggtgacaggg 180
ttgattctca gcccttcgcc ctccctata ttcatccaac caacccttc gccgccgatg 240

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tcgtttcaca acccggggct ggaactcgcc ctgcacagcc gccccgcccc cttgggtccg 300  
 cttggcgtga ccagtccag cgcccccccg ctgccccccg tcgtcgatct gccccagctt 360  
 ggtctgcgcc gcggtgctga tgggactgct gagcttacta ccacagcagc cacacgtttc 420  
 atgaaggacc tgcacttcgc tggcacgaat ggcgttggtg aggtgggtcg tggtatcgcc 480  
 ctgacactgt tcaatctcgc tgatacgctt ctcggcggtt taccgacaga attgatttcg 540  
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 gtaaagtat atacatctgt tgagaatgcg cagcaagaca agggcâtcac cattccacat 660  
 gatatagacc tgggtgactc ccgtgtggtt atccaggatt atgataacca gcatgagcaa 720  
 gâccgaccta ctccgtcacc tgccccctct cgcccccttct cagttcttcg tgccaatgat 780  
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 cttgaggata ctattgatta ccccgcccgt gcccatactt ttgatgattt ttgcccggag 1260  
 tgccgtaccc taggtttgca gggttgtgca ttccagtcta ctattgctga gctccagcgt 1320  
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 taaggatcc 1389

<210> 197

<211> 74

<212> PRT

<213> Hepatitis E virus

<220>

<223> z12-orf3-5'.pep

<400> 197

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Gly	Leu	Phe	Cys	Cys	Cys	Ser	Ser	Cys	Phe	Cys	Leu	Cys	Cys	Pro	Arg
			20					25					30		



Ser Arg Pro Phe Ser Val Leu Arg Ala Asn Asp Val Leu Trp Leu Ser  
 130 135 140  
 Leu Thr Ala Ala Glu Tyr Asp Gln Thr Thr Tyr Gly Ser Ser Thr Asn  
 145 150 155 160  
 Pro Met Tyr Val Ser Asp Thr Val Thr Leu Val Asn Val Ala Thr Gly  
 165 170 175  
 Ala Gln Ala Val Ala Arg Ser Leu Asp Trp Ser Lys Val Thr Leu Asp  
 180 185 190  
 Gly Arg Pro Leu Thr Thr Ile Gln Gln Tyr Ser Lys Thr Phe Tyr Val  
 195 200 205  
 Leu Pro Leu Arg Gly Lys Leu Ser Phe Trp Glu Ala Gly Thr Thr Lys  
 210 215 220  
 Ala Gly Tyr Pro Tyr Asn Tyr Asn Thr Thr Ala Ser Asp Gln Ile Leu  
 225 230 235 240  
 Ile Glu Asn Ala Ala Gly His Arg Val Ala Ile Ser Thr Tyr Thr Thr  
 245 250 255  
 Ser Leu Gly Ala Gly Pro Thr Ser Ile Ser Ala Val Gly Val Leu Ala  
 260 265 270  
 Pro His Ser Ala Leu Ala Val Leu Glu Asp Thr Ile Asp Tyr Pro Ala  
 275 280 285  
 Arg Ala His Thr Phe Asp Asp Phe Cys Pro Glu Cys Arg Thr Leu Gly  
 290 295 300  
 Leu Gln Gly Cys Ala Phe Gln Ser Thr Ile Ala Glu Leu Gln Arg Leu  
 305 310 315 320  
 Lys Met Lys Val Gly Lys Thr Arg Glu Ser Asp Tyr Lys Asp Asp Asp  
 325 330 335  
 Asp Lys

<210> 200

<211> 338

<212> PRT

<213> Hepatitis E virus

<220>

<223> plorf2.2-6.pep

<400> 200

Glu Phe Met Gly Ala Asp Gly Thr Ala Glu Leu Thr Thr Thr Ala Ala  
 1 5 10 15

Thr Arg Phe Met Lys Asp Leu His Phe Ala Gly Thr Asn Gly Val Gly  
 20 25 30

Glu Val Gly Arg Gly Ile Ala Leu Thr Leu Phe Asn Leu Ala Asp Thr  
 35 40 45  
 Leu Leu Gly Gly Leu Pro Thr Glu Leu Ile Ser Ser Ala Gly Gly Gln  
 50 55 60  
 Leu Phe Tyr Ser Arg Pro Val Val Ser Ala Asn Gly Glu Pro Thr Val  
 65 70 75 80  
 Lys Leu Tyr Thr Ser Val Glu Asn Ala Gln Gln Asp Lys Gly Ile Thr  
 85 90 95  
 Ile Pro His Asp Ile Asp Leu Gly Asp Ser Arg Val Val Ile Gln Asp  
 100 105 110  
 Tyr Asp Asn Gln His Glu Gln Asp Arg Pro Thr Pro Ser Pro Ala Pro  
 115 120 125  
 Ser Arg Pro Phe Ser Val Leu Arg Ala Asn Asp Val Leu Trp Leu Ser  
 130 135 140  
 Leu Thr Ala Ala Glu Tyr Asp Gln Thr Thr Tyr Gly Ser Ser Thr Asn  
 145 150 155 160  
 Pro Met Tyr Val Ser Asp Thr Val Thr Leu Val Asn Val Ala Thr Gly  
 165 170 175  
 Ala Gln Ala Val Ala Arg Ser Leu Asp Trp Ser Lys Val Thr Leu Asp  
 180 185 190  
 Gly Arg Pro Leu Thr Thr Ile Gln Gln Tyr Ser Lys Thr Phe Tyr Val  
 195 200 205  
 Leu Pro Leu Arg Gly Lys Leu Ser Phe Trp Glu Ala Gly Thr Thr Lys  
 210 215 220  
 Ala Gly Tyr Pro Tyr Asn Tyr Asn Thr Thr Ala Ser Asp Gln Ile Leu  
 225 230 235 240  
 Ile Glu Asn Ala Ala Gly His Arg Val Ala Ile Ser Thr Tyr Thr Thr  
 245 250 255  
 Ser Leu Gly Ala Gly Pro Thr Ser Ile Ser Ala Val Gly Val Leu Ala  
 260 265 270  
 Pro His Ser Ala Leu Ala Val Leu Glu Asp Thr Ile Asp Tyr Pro Ala  
 275 280 285  
 Arg Ala His Thr Phe Asp Asp Phe Cys Pro Glu Cys Arg Thr Leu Gly  
 290 295 300  
 Leu Gln Gly Cys Ala Phe Gln Ser Thr Ile Ala Glu Leu Gln Arg Leu  
 305 310 315 320  
 Lys Met Lys Val Gly Lys Thr Arg Glu Ser Asp Tyr Lys Asp Asp Asp  
 325 330 335

Asp Lys

<210> 201  
 <211> 37  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> Description of Artificial Sequence: Primer orf35p

<400> 201  
 tatatgaatt catgaataac atgtcttttg catcgcc 37

<210> 202  
 <211> 68  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> Description of Artificial Sequence: Primer orf33p

<400> 202  
 tatatggatc cttattactt gtcacgctcg tcctttagt cgcggcgcag accaagctgg 60  
 ggcagatc 68

<210> 203  
 <211> 132  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> pJOorf3-29.pep

<400> 203  
 Glu Phe Met Asn Asn Met Ser Phe Ala Ser Pro Met Gly Ser Pro Cys  
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 Ala Leu Gly Leu Phe Cys Cys Cys Ser Ser Cys Phe Cys Leu Cys Cys  
                   20                  25                  30  
 Pro Arg His Arg Pro Ala Ser Arg Leu Ala Ala Val Val Gly Gly Ala  
           35                  40                  45  
 Ala Ala Val Pro Ala Val Val Ser Gly Val Thr Gly Leu Ile Leu Ser  
   50                  55                  60  
 Pro Ser Pro Ser Pro Ile Phe Ile Gln Pro Thr Pro Ser Pro Pro Met  
   65                  70                  75                  80  
 Ser Phe His Asn Pro Gly Leu Glu Leu Ala Leu Asp Ser Arg Pro Ala  
                   85                  90                  95

Pro Leu Ala Pro Leu Gly Val Thr Ser Pro Ser Ala Pro Pro Leu Pro  
                   100                                  105                                  110

Pro Val Val Asp Leu Pro Gln Leu Gly Leu Arg Arg Asp Tyr Lys Asp  
                   115                                  120                                  125

Asp Asp Asp Lys  
                   130

<210> 204

<211> 132

<212> PRT

<213> Hepatitis E virus

<220>

<223> plorf3-12.pep

<400> 204

Glu Phe Met Asn Asn Met Ser Phe Ala Ser Pro Met Gly Ser Pro Cys  
           1                                  5                                  10                                  15

Ala Leu Gly Leu Phe Cys Cys Cys Ser Ser Cys Phe Cys Leu Cys Cys  
                                   20                                  25                                  30

Pro Arg His Arg Pro Ala Ser Arg Leu Ala Ala Val Val Gly Gly Ala  
                   35                                  40                                  45

Ala Ala Val Pro Ala Val Val Ser Gly Val Thr Gly Leu Ile Leu Ser  
                   50                                  55                                  60

Pro Ser Pro Ser Pro Ile Phe Ile Gln Pro Thr Pro Ser Pro Pro Met  
           65                                  70                                  75                                  80

Ser Phe His Asn Pro Gly Leu Glu Leu Ala Leu Asp Ser Arg Pro Ala  
                                   85                                  90                                  95

Pro Leu Ala Pro Leu Gly Val Thr Ser Pro Ser Ala Pro Pro Leu Pro  
                   100                                  105                                  110

Pro Val Val Asp Leu Pro Gln Leu Gly Leu Arg Arg Asp Tyr Lys Asp  
                   115                                  120                                  125

Asp Asp Asp Lys  
                   130

<210> 205

<211> 48

<212> DNA

<213> Hepatitis E virus

<220>

<223> Description of Artificial Sequence: Primer orf23

<400> 205

ctcagcagtc ccatcagcac cgcggcgcag accaagctgg ggcagatc

48

&lt;210&gt; 206

&lt;211&gt; 459

&lt;212&gt; PRT

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; CKSORF32M-3.pep

&lt;400&gt; 206

Glu	Phe	Met	Asn	Asn	Met	Ser	Phe	Ala	Ser	Pro	Met	Gly	Ser	Pro	Cys
1				5					10					15	

Ala	Leu	Gly	Leu	Phe	Cys	Cys	Cys	Ser	Ser	Cys	Phe	Cys	Leu	Cys	Cys
			20					25					30		

Pro	Arg	His	Arg	Pro	Ala	Ser	Arg	Leu	Ala	Ala	Val	Val	Gly	Gly	Val
		35					40					45			

Ala	Ala	Val	Pro	Ala	Val	Val	Ser	Gly	Val	Thr	Gly	Leu	Ile	Leu	Ser
	50					55					60				

Pro	Ser	Pro	Ser	Pro	Ile	Phe	Ile	Gln	Pro	Thr	Pro	Ser	Pro	Pro	Met
65					70					75					80

Ser	Phe	His	Asn	Pro	Gly	Leu	Glu	Leu	Ala	Leu	Asp	Ser	Arg	Pro	Ala
			85						90					95	

Pro	Leu	Ala	Pro	Leu	Gly	Val	Thr	Ser	Pro	Ser	Ala	Pro	Pro	Leu	Pro
			100					105						110	

Pro	Val	Val	Asp	Leu	Pro	Gln	Leu	Gly	Leu	Arg	Arg	Gly	Ala	Asp	Gly
	115					120						125			

Thr	Ala	Glu	Leu	Thr	Thr	Thr	Ala	Ala	Thr	Arg	Phe	Met	Lys	Asp	Leu
130						135					140				

His	Phe	Ala	Gly	Thr	Asn	Gly	Val	Gly	Glu	Val	Gly	Arg	Gly	Ile	Ala
145					150				155					160	

Leu	Thr	Leu	Phe	Asn	Leu	Ala	Asp	Thr	Leu	Leu	Gly	Gly	Leu	Pro	Thr
			165						170					175	

Glu	Leu	Ile	Ser	Ser	Ala	Gly	Gly	Gln	Leu	Phe	Tyr	Ser	Arg	Pro	Val
		180						185					190		

Val	Ser	Ala	Asn	Gly	Glu	Pro	Thr	Val	Lys	Leu	Tyr	Thr	Ser	Val	Glu
	195						200					205			

Asn	Ala	Gln	Gln	Asp	Lys	Gly	Ile	Thr	Ile	Pro	His	Asp	Ile	Asp	Leu
	210					215					220				

Gly	Asp	Ser	Arg	Val	Val	Ile	Gln	Asp	Tyr	Asp	Asn	Gln	His	Glu	Gln
225					230					235				240	

Asp Arg Pro Thr Pro Ser Pro Ala Pro Ser Arg Pro Phe Ser Val Leu  
 245 250 255  
 Arg Ala Asn Asp Val Leu Trp Leu Ser Leu Thr Ala Ala Glu Tyr Asp  
 260 265 270  
 Gln Thr Thr Tyr Gly Ser Ser Thr Asn Pro Met Tyr Val Ser Asp Thr  
 275 280 285  
 Val Thr Leu Val Asn Val Ala Thr Gly Ala Gln Ala Val Ala Arg Ser  
 290 295 300  
 Leu Asp Trp Ser Lys Val Thr Leu Asp Gly Arg Pro Leu Thr Thr Ile  
 305 310 315 320  
 Gln Gln Tyr Ser Lys Thr Phe Tyr Val Leu Pro Leu Arg Gly Lys Leu  
 325 330 335  
 Ser Phe Trp Glu Ala Gly Thr Thr Lys Ala Gly Tyr Pro Tyr Asn Tyr  
 340 345 350  
 Asn Thr Thr Ala Ser Asp Gln Ile Leu Ile Glu Asn Ala Ala Gly His  
 355 360 365  
 Arg Val Ala Ile Ser Thr Tyr Thr Thr Ser Leu Gly Ala Gly Pro Thr  
 370 375 380  
 Ser Ile Ser Ala Val Gly Val Leu Ala Pro His Ser Ala Leu Ala Val  
 385 390 395 400  
 Leu Glu Asp Thr Ile Asp Tyr Pro Ala Arg Ala His Thr Phe Asp Asp  
 405 410 415  
 Phe Cys Pro Glu Cys Arg Thr Leu Gly Leu Gln Gly Cys Ala Phe Gln  
 420 425 430  
 Ser Thr Ile Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys Thr  
 435 440 445  
 Arg Glu Ser Asp Tyr Lys Asp Asp Asp Asp Lys  
 450 455

&lt;210&gt; 207

&lt;211&gt; 459

&lt;212&gt; PRT

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; PLORF32M-14-5.pep

&lt;400&gt; 207

Glu Phe Met Asn Asn Met Ser Phe Ala Ser Pro Met Gly Ser Pro Cys  
 1 5 10 15

Ala Leu Gly Leu Phe Cys Cys Cys Ser Ser Cys Phe Cys Leu Cys Cys  
 20 25 30

Pro Arg His Arg Pro Ala Ser Arg Leu Ala Ala Val Val Gly Gly Val  
 35 40 45  
 Ala Ala Val Pro Ala Val Val Ser Gly Val Thr Gly Leu Ile Leu Ser  
 50 55 60  
 Pro Ser Pro Ser Pro Ile Phe Ile Gln Pro Thr Pro Ser Pro Pro Met  
 65 70 75 80  
 Ser Phe His Asn Pro Gly Leu Glu Leu Ala Leu Asp Ser Arg Pro Ala  
 85 90 95  
 Pro Leu Ala Pro Leu Gly Val Thr Ser Pro Ser Ala Pro Pro Leu Pro  
 100 105 110  
 Pro Val Val Asp Leu Pro Gln Leu Gly Leu Arg Arg Gly Ala Asp Gly  
 115 120 125  
 Thr Ala Glu Leu Thr Thr Thr Ala Ala Thr Arg Phe Met Lys Asp Leu  
 130 135 140  
 His Phe Ala Gly Thr Asn Gly Val Gly Glu Val Gly Arg Gly Ile Ala  
 145 150 155 160  
 Leu Thr Leu Phe Asn Leu Ala Asp Thr Leu Leu Gly Gly Leu Pro Thr  
 165 170 175  
 Glu Leu Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro Val  
 180 185 190  
 Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val Glu  
 195 200 205  
 Asn Ala Gln Gln Asp Lys Gly Ile Thr Ile Pro His Asp Ile Asp Leu  
 210 215 220  
 Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Asp Asn Gln His Glu Gln  
 225 230 235 240  
 Asp Arg Pro Thr Pro Ser Pro Ala Pro Ser Arg Pro Phe Ser Val Leu  
 245 250 255  
 Arg Ala Asn Asp Val Leu Trp Leu Ser Leu Thr Ala Ala Glu Tyr Asp  
 260 265 270  
 Gln Thr Thr Tyr Gly Ser Ser Thr Asn Pro Met Tyr Val Ser Asp Thr  
 275 280 285  
 Val Thr Leu Val Asn Val Ala Thr Gly Ala Gln Ala Val Ala Arg Ser  
 290 295 300  
 Leu Asp Trp Ser Lys Val Thr Leu Asp Gly Arg Pro Leu Thr Thr Ile  
 305 310 315 320  
 Gln Gln Tyr Ser Lys Thr Phe Tyr Val Leu Pro Leu Arg Gly Lys Leu  
 325 330 335

Ser Phe Trp Glu Ala Gly Thr Thr Lys Ala Gly Tyr Pro Tyr Asn Tyr  
340 345 350

Asn Thr Thr Ala Ser Asp Gln Ile Leu Ile Glu Asn Ala Ala Gly His  
355 360 365

Arg Val Ala Ile Ser Thr Tyr Thr Thr Ser Leu Gly Ala Gly Pro Thr  
370 375 380

Ser Ile Ser Ala Val Gly Val Leu Ala Pro His Ser Ala Leu Ala Val  
385 390 395 400

Leu Glu Asp Thr Ile Asp Tyr Pro Ala Arg Ala His Thr Phe Asp Asp  
405 410 415

Phe Cys Pro Glu Cys Arg Thr Leu Gly Leu Gln Gly Cys Ala Phe Gln  
420 425 430

Ser Thr Ile Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys Thr  
435 440 445

Arg Glu Ser Asp Tyr Lys Asp Asp Asp Asp Lys  
450 455

<210> 208

<211> 36

<212> DNA

<213> Hepatitis E virus

<220>

<223> Description of Artificial Sequence: Primer  
orf2mid5p

<400> 208

tatatgaatt catgggtgct gatgggactg ctgagc

36

<210> 209

<211> 418

<212> DNA

<213> Hepatitis E virus

<220>

<223> 1440o1.seq

<220>

<221> CDS

<222> (3)..(416)

<400> 209

ct ggc aty act act gcy att gag cag gct gct ctg gct gcg gcc aat 47

Gly Xaa Thr Thr Xaa Ile Glu Gln Ala Ala Leu Ala Ala Ala Asn

1

5

10

15

tcc gcc ttg gcg aat gct gtg gtg gtt cgg ccg ttt tta tcc cgt gtt 95

Ser	Ala	Leu	Ala	Asn	Ala	Val	Val	Val	Arg	Pro	Phe	Leu	Ser	Arg	Val	
				20					25						30	
caa	act	gat	atc	ctt	att	aac	ctg	atg	caa	ccc	cgt	cag	ctt	gtg	ttc	143
Gln	Thr	Asp	Ile	Leu	Ile	Asn	Leu	Met	Gln	Pro	Arg	Gln	Leu	Val	Phe	
			35					40					45			
cgg	cct	gaa	gtt	ctc	tgg	aac	cat	ccg	atc	cag	cga	gtt	ata	cat	aat	191
Arg	Pro	Glu	Val	Leu	Trp	Asn	His	Pro	Ile	Gln	Arg	Val	Ile	His	Asn	
			50				55					60				
gag	ctg	gaa	caa	tac	tgt	cga	gcc	cgc	gct	ggc	cgc	tgt	ctt	gag	gtg	239
Glu	Leu	Glu	Gln	Tyr	Cys	Arg	Ala	Arg	Ala	Gly	Arg	Cys	Leu	Glu	Val	
			65				70				75					
ggc	gct	cac	cca	agg	tct	att	aat	gat	aac	ccc	aat	gtt	ctg	cac	cgg	287
Gly	Ala	His	Pro	Arg	Ser	Ile	Asn	Asp	Asn	Pro	Asn	Val	Leu	His	Arg	
	80					85				90					95	
tgc	ttt	ctc	cgc	ccg	gtt	ggg	aga	gac	gtc	cag	cgc	tgg	tat	tcc	gcc	335
Cys	Phe	Leu	Arg	Pro	Val	Gly	Arg	Asp	Val	Gln	Arg	Trp	Tyr	Ser	Ala	
				100					105					110		
ccc	act	cgt	ggc	cca	gcg	gct	aac	tgc	cgc	cgt	tct	gcg	cta	cgc	ggt	383
Pro	Thr	Arg	Gly	Pro	Ala	Ala	Asn	Cys	Arg	Arg	Ser	Ala	Leu	Arg	Gly	
			115					120					125			
ttg	ccc	cct	gtc	gac	cgc	act	tac	tgt	yty	gat	gg					418
Leu	Pro	Pro	Val	Asp	Arg	Thr	Tyr	Cys	Xaa	Asp						
			130				135									
<210> 210																
<211> 138																
<212> PRT																
<213> Hepatitis E virus																
<400> 210																
Gly	Xaa	Thr	Thr	Xaa	Ile	Glu	Gln	Ala	Ala	Leu	Ala	Ala	Ala	Asn	Ser	
	1			5					10					15		
Ala	Leu	Ala	Asn	Ala	Val	Val	Val	Arg	Pro	Phe	Leu	Ser	Arg	Val	Gln	
			20					25					30			
Thr	Asp	Ile	Leu	Ile	Asn	Leu	Met	Gln	Pro	Arg	Gln	Leu	Val	Phe	Arg	
			35				40					45				
Pro	Glu	Val	Leu	Trp	Asn	His	Pro	Ile	Gln	Arg	Val	Ile	His	Asn	Glu	
			50			55					60					
Leu	Glu	Gln	Tyr	Cys	Arg	Ala	Arg	Ala	Gly	Arg	Cys	Leu	Glu	Val	Gly	
			65			70			75						80	
Ala	His	Pro	Arg	Ser	Ile	Asn	Asp	Asn	Pro	Asn	Val	Leu	His	Arg	Cys	
				85					90					95		
Phe	Leu	Arg	Pro	Val	Gly	Arg	Asp	Val	Gln	Arg	Trp	Tyr	Ser	Ala	Pro	

100

105

110

Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly Leu  
 115 120 125

Pro Pro Val Asp Arg Thr Tyr Cys Xaa Asp  
 130 135

&lt;210&gt; 211

&lt;211&gt; 197

&lt;212&gt; DNA

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; 1440o2.seq

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (2)..(196)

&lt;400&gt; 211

g aca gaa ttr att tcg tcg gct gga ggt caa ctg ttc tac tcc cgc ccg 49  
 Thr Glu Xaa Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro  
 1 5 10 15

ggt gtc tca gcc aat ggc gag ccg act gtt aag tta tac acc tct gtc 97  
 Val Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val  
 20 25 30

gag aat gca cag cag gat aag ggc att gct ata cca cat gat ata gac 145  
 Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp  
 35 40 45

tta ggg gat tcc cgt gtg gtt ata caa gat tat gay aac car cay gaa 193  
 Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Xaa Asn Xaa Xaa Glu  
 50 55 60

caa g 197  
 Gln  
 65

&lt;210&gt; 212

&lt;211&gt; 65

&lt;212&gt; PRT

&lt;213&gt; Hepatitis E virus

&lt;400&gt; 212

Thr Glu Xaa Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro  
 1 5 10 15

Val Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val  
 20 25 30

Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp  
 35 40 45

Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Xaa Asn Xaa Xaa Glu  
 50 55 60

Gln  
 65

<210> 213  
 <211> 418  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 2015-1.seq

<220>  
 <221> CDS  
 <222> (3)...(416)

<400> 213  
 ct ggc aty act act gcy att gag cag gct gct ctg gct gcg gct aac 47  
 Gly Xaa Thr Thr Xaa Ile Glu Gln Ala Ala Leu Ala Ala Ala Asn  
 1 5 10 15  
 tct gcc ttg gcg aat gct gtg gtg gtc cgg ccg ttc ctg tcc cgc act 95  
 Ser Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Thr  
 20 25 30  
 cag act gat att ctt att aat ttg atg caa ccc cgg caa ctt gta ttc 143  
 Gln Thr Asp Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe  
 35 40 45  
 cgc cct gag gtt ttg tgg aac cat ccg atc cag cga gtc ata cat aat 191  
 Arg Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn  
 50 55 60  
 gag ctg gag cag tat tgc cgt gct cgt gct ggt cgc tgc ctg gag gtt 239  
 Glu Leu Glu Gln Tyr Cys Arg Ala Arg Ala Gly Arg Cys Leu Glu Val  
 65 70 75  
 ggg gct cat cca aga tct atc aat gac aac cct aat gtt ctg cac cgg 287  
 Gly Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg  
 80 85 90 95  
 tgt ttc ctc cgt ccg gtt ggg cga gac gta cag cgt tgg tat tct gcc 335  
 Cys Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala  
 100 105 110  
 cct act cgc ggc ccg gcg gct aat tgc cgc cgt tcc gcg tta cgt ggc 383  
 Pro Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly  
 115 120 125  
 cta cct cct gtc gac cgc act tac tgt yty gat gg 418  
 Leu Pro Pro Val Asp Arg Thr Tyr Cys Xaa Asp  
 130 135

<210> 214  
 <211> 138  
 <212> PRT  
 <213> Hepatitis E virus

<400> 214

Gly	Xaa	Thr	Thr	Xaa	Ile	Glu	Gln	Ala	Ala	Leu	Ala	Ala	Ala	Asn	Ser
1				5					10					15	
Ala	Leu	Ala	Asn	Ala	Val	Val	Val	Arg	Pro	Phe	Leu	Ser	Arg	Thr	Gln
			20					25					30		
Thr	Asp	Ile	Leu	Ile	Asn	Leu	Met	Gln	Pro	Arg	Gln	Leu	Val	Phe	Arg
		35					40					45			
Pro	Glu	Val	Leu	Trp	Asn	His	Pro	Ile	Gln	Arg	Val	Ile	His	Asn	Glu
	50					55					60				
Leu	Glu	Gln	Tyr	Cys	Arg	Ala	Arg	Ala	Gly	Arg	Cys	Leu	Glu	Val	Gly
	65				70					75					80
Ala	His	Pro	Arg	Ser	Ile	Asn	Asp	Asn	Pro	Asn	Val	Leu	His	Arg	Cys
				85					90					95	
Phe	Leu	Arg	Pro	Val	Gly	Arg	Asp	Val	Gln	Arg	Trp	Tyr	Ser	Ala	Pro
		100						105					110		
Thr	Arg	Gly	Pro	Ala	Ala	Asn	Cys	Arg	Arg	Ser	Ala	Leu	Arg	Gly	Leu
		115					120					125			
Pro	Pro	Val	Asp	Arg	Thr	Tyr	Cys	Xaa	Asp						
	130						135								

<210> 215  
 <211> 197  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 2015o2.seq

<220>  
 <221> CDS  
 <222> (2)..(196)

<400> 215

g	aca	gaa	ttr	att	tcg	tcg	gct	gga	ggc	cag	ctc	ttc	tac	tcc	cgc	cca	49
Thr	Glu	Xaa	Ile	Ser	Ser	Ala	Gly	Gly	Gln	Leu	Phe	Tyr	Ser	Arg	Pro		
1				5					10					15			
gtc	gtc	tca	gcc	aat	ggc	gag	ccg	act	ggt	aaa	ttg	tat	aca	tcc	gtc		97
Val	Val	Ser	Ala	Asn	Gly	Glu	Pro	Thr	Val	Lys	Leu	Tyr	Thr	Ser	Val		
			20				25					30					
gag	aat	gcg	cag	cag	gac	aag	ggc	att	gcc	ata	cca	cat	gat	ata	gat		145

Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp  
 35 40 45

cta gga gat tcc cgc gtg gtt atc cag gat tat gay aac car cay gaa 193  
 Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Xaa Asn Xaa Xaa Glu  
 50 55 60

caa g 197  
 Gln  
 65

<210> 216

<211> 65

<212> PRT

<213> Hepatitis E virus

<400> 216

Thr Glu Xaa Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro  
 1 5 10 15

Val Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val  
 20 25 30

Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp  
 35 40 45

Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Xaa Asn Xaa Xaa Glu  
 50 55 60

Gln  
 65

<210> 217

<211> 251

<212> DNA

<213> Hepatitis E virus

<220>

<223> 14404-2.seq

<220>

<221> CDS

<222> (3)..(251)

<223> orf2

<220>

<223> orf3 from position 1 to position 165

<400> 217

at att cat cca acc aac ccc ttt gcc tcc gac gtc gta tcg caa tcc 47  
 Ile His Pro Thr Asn Pro Phe Ala Ser Asp Val Val Ser Gln Ser  
 1 5 10 15

ggg gct gga gct cgc cct cga cag ccg gcc cgc ccc ctc ggc tcc tct 95  
 Gly Ala Gly Ala Arg Pro Arg Gln Pro Ala Arg Pro Leu Gly Ser Ser

	20	25	30	
tgg cgt gac cag tcc cag cgc ccc ccc gct gtc ccc cgt cgt cga tct				143
Trp Arg Asp Gln Ser Gln Arg Pro Pro Ala Val Pro Arg Arg Arg Ser				
	35	40	45	
acc cca act ggg gct gcg ccg cta act gct gtt tca cca gcg cct gat				191
Thr Pro Thr Gly Ala Ala Pro Leu Thr Ala Val Ser Pro Ala Pro Asp				
	50	55	60	
acg gcc cca gtc cct gat gtt gac tct cgt ggc gct atc ttg cgc cgg				239
Thr Ala Pro Val Pro Asp Val Asp Ser Arg Gly Ala Ile Leu Arg Arg				
	65	70	75	
cag tat aac cta				251
Gln Tyr Asn Leu				
80				

<210> 218  
 <211> 83  
 <212> PRT  
 <213> Hepatitis E virus

<400> 218  
 Ile His Pro Thr Asn Pro Phe Ala Ser Asp Val Val Ser Gln Ser Gly  
 1 5 10 15  
 Ala Gly Ala Arg Pro Arg Gln Pro Ala Arg Pro Leu Gly Ser Ser Trp  
 20 25 30  
 Arg Asp Gln Ser Gln Arg Pro Pro Ala Val Pro Arg Arg Arg Ser Thr  
 35 40 45  
 Pro Thr Gly Ala Ala Pro Leu Thr Ala Val Ser Pro Ala Pro Asp Thr  
 50 55 60  
 Ala Pro Val Pro Asp Val Asp Ser Arg Gly Ala Ile Leu Arg Arg Gln  
 65 70 75 80  
 Tyr Asn Leu

<210> 219  
 <211> 55  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> 14404-2.seq orf3

<400> 219  
 Ile Phe Ile Gln Pro Thr Pro Leu Pro Pro Thr Ser Tyr Arg Asn Pro  
 1 5 10 15  
 Gly Leu Glu Leu Ala Leu Asp Ser Arg Pro Ala Pro Ser Ala Pro Leu

20

25

30

Gly Val Thr Ser Pro Ser Ala Pro Pro Leu Ser Pro Val Val Asp Leu  
           35                          40                          45

Pro Gln Leu Gly Leu Arg Arg  
           50                          55

&lt;210&gt; 220

&lt;211&gt; 251

&lt;212&gt; DNA

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; 20154-2.seq

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (3)..(251)

&lt;223&gt; orf2

&lt;220&gt;

&lt;223&gt; orf3 from position 1 to position 165

&lt;400&gt; 220

at att cat cca acc aac ccc ttt gcc gcc gac gtc gta tca caa ccc 47

Ile His Pro Thr Asn Pro Phe Ala Ala Asp Val Val Ser Gln Pro

1

5

10

15

ggg gct gga gct cgc cct cga cag ccg ccc cgc ccc ctc ggc tcc tct 95

Gly Ala Gly Ala Arg Pro Arg Gln Pro Pro Arg Pro Leu Gly Ser Ser

20

25

30

tgg cgt gat cag tcc cag cgc ccc tcc gct gcc ccc cgt cgt cga tct 143

Trp Arg Asp Gln Ser Gln Arg Pro Ser Ala Ala Pro Arg Arg Arg Ser

35

40

45

acc cca gct ggg gct gcg ccg tta act gct gtt tcc cct gcg ccc gat 191

Thr Pro Ala Gly Ala Ala Pro Leu Thr Ala Val Ser Pro Ala Pro Asp

50

55

60

acg gcc cca gtc ccc gac gtt gat tcc cgt ggt gcc atc ctg cgc cgg 239

Thr Ala Pro Val Pro Asp Val Asp Ser Arg Gly Ala Ile Leu Arg Arg

65

70

75

cag tat aac cta

251

Gln Tyr Asn Leu

80

&lt;210&gt; 221

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; Hepatitis E virus

&lt;400&gt; 221

Ile His Pro Thr Asn Pro Phe Ala Ala Asp Val Val Ser Gln Pro Gly  
 1 5 10 15  
 Ala Gly Ala Arg Pro Arg Gln Pro Pro Arg Pro Leu Gly Ser Ser Trp  
 20 25 30  
 Arg Asp Gln Ser Gln Arg Pro Ser Ala Ala Pro Arg Arg Arg Ser Thr  
 35 40 45  
 Pro Ala Gly Ala Ala Pro Leu Thr Ala Val Ser Pro Ala Pro Asp Thr  
 50 55 60  
 Ala Pro Val Pro Asp Val Asp Ser Arg Gly Ala Ile Leu Arg Arg Gln  
 65 70 75 80  
 Tyr Asn Leu

<210> 222  
 <211> 55  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> 20154-2.seq orf3

<400> 222  
 Ile Phe Ile Gln Pro Thr Pro Leu Pro Pro Thr Ser Tyr His Asn Pro  
 1 5 10 15  
 Gly Leu Glu Leu Ala Leu Asp Ser Arg Pro Ala Pro Ser Ala Pro Leu  
 20 25 30  
 Gly Val Ile Ser Pro Ser Ala Pro Pro Leu Pro Pro Val Val Asp Leu  
 35 40 45  
 Pro Gln Leu Gly Leu Arg Arg  
 50 55

<210> 223  
 <211> 48  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> US-2 3-2e

<400> 223  
 Thr Ile Asp Tyr Pro Ala Arg Ala His Thr Phe Asp Asp Phe Cys Pro  
 1 5 10 15  
 Glu Cys Arg Thr Leu Gly Leu Gln Gly Cys Ala Phe Gln Ser Thr Ile  
 20 25 30  
 Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys Thr Arg Glu Ser

35

40

45

<210> 224  
 <211> 33  
 <212> PRT  
 <213> Hepatitis E virus

<220>  
 <223> US-2 4-2

<400> 224  
 Asp Ser Arg Pro Ala Pro Leu Val Pro Leu Gly Val Thr Ser Pro Ser  
           1                  5                  10                  15

Ala Pro Pro Leu Pro Pro Val Val Asp Leu Pro Gln Leu Gly Leu Arg  
                   20                  25                  30

Arg

<210> 225  
 <211> 450  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 5p.pile {hpesvp}

<400> 225  
 ggctcctggc atcactactg ctattgagca ggctgctcta gcagcggcca actctgccct 60  
 ggcgaatgct gtggtagtta ggccttttct ctctcaccag cagattgaga tcctcattaa 120  
 cctaatagcaa cctcgccagc ttgtttttccg ccccgagggtt ttctggaatc atcccatcca 180  
 gcgtgtcatc cataacgagc tggagcttta ctgccgcgcc cgctccggcc gctgtcttga 240  
 aattggcgcc catccccgct caataaatga taatcctaata gtggtccacc gctgcttct 300  
 ccgccctgtt gggcgtgatg ttcagcgctg gtatactgct ccactcgcg ggccggctgc 360  
 taattgccgg cgttccgcgc tgcgcggggt tcccgctgct gaccgcactt actgcctcga 420  
 cgggttttct ggctgtaact ttcccgcga 450

<210> 226  
 <211> 450  
 <212> DNA  
 <213> Hepatitis E virus

<220>

<223> 5p.pile {hpeuigh}

<400> 226

```
ggctcctggc atcactactg ctattgagca ggctgctcta gcagcggcca attctgccct 60
tgcgaaatgct gtggtagtta ggccttttct ctctcaccag cagattgaga tccttattaa 120
cctaatagcaa cctcgccagc ttgttttccg ccccgagggtt ttctggaacc accccatcca 180
gcgtgtcatc cataatgagc tggagcttta ctgtcgcgcc cgctccggcc gctgccttga 240
aattggtgcc caccctcgct caataaacga caatcctaata gtggtccacc gctgcttcc 300
ccgccctgcc gggcgtgatg ttcagcggtg gtatactgct cctaccgcgc ggcgggctgc 360
taattgccgg ggttccgcac tgcgcgggct ccccgctgct gaccgcactt actgcttcga 420
cgggttttct ggctgtaact ttcccgccga 450
```

<210> 227

<211> 450

<212> DNA

<213> Hepatitis E virus

<220>

<223> 5p.pile {hpea}

<400> 227

```
ggctcctggc atcactactg ctattgagca ggctgctcta gcagcggcca actctgccct 60
tgcgaaatgct gtggtagtta ggccttttct ctctcaccag cagattgaga tccttattaa 120
cctaatagcaa cctcgccagc ttgttttccg ccccgagggtt ttctggaacc atcccatcca 180
gcgtgttatc cataatgagc tggagcttta ctgtcgcgcc cgctccggcc gctgcctcga 240
aattggtgcc caccctcgct caataaatga caatcctaata gtggtccacc gttgcttcc 300
ccgtcctgcc gggcgtgatg ttcagcggtg gtatactgcc cctaccgcgc ggcgggctgc 360
taattgccgg cgttccgcgc tgcgcgggct ccccgctgct gaccgcactt actgcttcga 420
cgggttttct ggctgtaact ttcccgccga 450
```

<210> 228

<211> 446

<212> DNA

<213> Hepatitis E virus

<220>

<223> 5p.pile {840455p}

<400> 228

```
cctggcatta ctactgcat tgagcaggct gctctggctg cggccaattc tgccttggcg 60
```

```

aatgctgtgg tggttcggcc gtttttatct cgcgtgcaaa ccgagattct tattaatttg 120
atgcaacccc ggcagttggt ttcccgccct gaggtacttt ggaatcaccc tatccagcgg 180
gttatacata atgaattaga acagtactgc cgggctcggg ctggtcggtg cttggagggt 240
ggagctcacc caagatccat taatgacaac cccaacgttc tgcacggtg tttccttaga 300
ccggttggcc gagatgttca gcgctggtac tctgccccca cccgcggccc tgcgggtaat 360
tgccgccgct ccgcgttgcg tgggtctcccc cccgctgacc gcacttactg ctttgatgga 420
ttctcccgtt gtgcttttgc tgcaga                                     446

```

```

<210> 229
<211> 450
<212> DNA
<213> Hepatitis E virus

```

```

<220>
<223> 5p.pile {hpenssp}

```

```

<400> 229
ggctcctggc atcactactg ctattgagca agcagctcta gcagcggcca actccgccct 60
tgcgaatgct gtggtggtcc ggcctttcct ttcccatcag caggttgaga tccttataaa 120
tctcatgcaa cctcggcagc tgggtgttcg tcctgagggt ttttggaatc acccgattca 180
acgtgttata cataatgagc ttgagcagta ttgccgtgct cgctcggggtc gctgccttga 240
gattggagcc caccacgct ccattaatga taatcctaata gtccctccatc gctgctttct 300
ccaccccgtc ggccgggatg ttcagcgtg gtacacagcc ccgactaggg gacctgcggc 360
gaactgtcgc cgctcggcac ttcgtggtct gccaccagcc gaccgcactt actgttttga 420
tggttttgcc ggctgccgtt ttgccgccga                                     450

```

```

<210> 230
<211> 450
<212> DNA
<213> Hepatitis E virus

```

```

<220>
<223> 5p Consensus

```

```

<220>
<221> variation
<222> ()..(450)
<223> The nucleotide identity of each n is indicated in
      Figure 9.

```

```

<400> 230
nnnncctggc atnactactg cnattgagca ngcngetctn gncgcggcca antengcent 60

```

ngcgaatgct gtggtngtnn ggcenntnt ntncnnnnng cannnngaga tncnatnaa 120  
 nntnatgcaa ccncgncagn tngtnttneg nccngaggtn ntntggaanc anccnatnca 180  
 ncgngtnatn cataangann tngancnnta ntgncngcn cgnncnggnc gntgnntnga 240  
 nnttgngcn canccngnt cnatnaanga naancnaa gtnntncanc gntgnttnt 300  
 nnnncngnn ggncgngatg ttcagcngtg gtanncngcn ccnacngng gncncngnc 360  
 naantgncgn ngntcngcn tncgnggnt nccnnngcn gaccgcactt actgnntnga 420  
 nggnttnncn ngntgnnnnt ttnncngca 450

<210> 231

<211> 300

<212> DNA

<213> Hepatitis E virus

<220>

<223> 3p.pile {hpea} shown in Figure 9B

<400> 231

actgagtcag tgaagccagt gcttgacctg acaaattcaa ttctgtgtcg ggtggaatga 60  
 ataacatgtc ttttgctgcg cccatgggtt cgcgaccatg cgccctcggc ctattttgct 120  
 gttgtcctc atgtttctgc ctatgtgcc cgcgccaccg cccggtcagc cgtctggccg 180  
 ccgtcgtggg cggcgcagcg gcggttcggg cggtggtttc tggggtgacc gggttgattc 240  
 tcagcccttc gcaatccctt atattcatcc aaccaacccc ttgcgcccg atgtcaccgc 300

<210> 232

<211> 300

<212> DNA

<213> Hepatitis E virus

<220>

<223> 3p.pile {hpeuigh} shown in Figure 9B

<400> 232

actgagtcgg tgaagccagt gctcgacttg acaaattcaa tcctgtgtcg ggtggaatga 60  
 ataacatgtc ttttgctgcg cccatgggtt ggcgaccatg cgccctcggc ctattttgct 120  
 gttgtcctc atgtttctgc ctatcgtgcc cgcgccaccg cccggtcagc cgtctggccg 180  
 ccgtcgtggg cggcgcagcg gcggttcggg cggtggtttc tggggtgacc gggttgattc 240  
 tcagcccttc gcaatccctt atattcatcc aaccaacccc ttgcgcccg atgtcaccgc 300

<210> 233

<211> 300  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 3p.pile {hpesvp} shown in Figure 9B

<400> 233  
 actgagtcag taaaaccagt gctcgacttg acaaattcaa tcttggtgctg ggtggaatga 60  
 ataacatgtc ttttgctgcg cccatggggtt cgcgaccatg egccctcgge ctattttggt 120  
 gctgctcctc atgtttttgc ctatgctgcc cgcgccaccg cccggtcage cgtctggccg 180  
 ccgtcgtggg cggcgcagcg gcggttccgg cggtggtttc tggggtgacc gggttgattc 240  
 tcagcccttc gcaatcccct atattcatcc aaccaacccc ttcgcccccg atgtcacccg 300

<210> 234  
 <211> 300  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 3p.pile {hpenssp} shown in Figure 9B

<400> 234  
 acagagtctg ttaagcctat acttgacett acacactcaa ttatgcaccg gtctgaatga 60  
 ataacatgtg gtttgctgcg cccatggggtt cgccaccatg cgccctaggc ctcttttgct 120  
 gttgttcctc ttgtttctgc ctatgttgcc cgcgccaccg accggtcage cgtctggccg 180  
 ccgtcgtggg cggcgcagcg gcggtaccgg cggtggtttc tggggtgacc gggttgattc 240  
 tcagcccttc gcaatcccct atattcatcc aaccaacccc tttgccccag acgttgccgc 300

<210> 235  
 <211> 297  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 3p.pile {840453p} shown in Figure 9B

<400> 235  
 acagagacta ttaaactgt acttgatctc acaaattcca tcatacagcg ggtggaatga 60  
 ataacatgtc ttttgcatcg cccatgggat caccatgcgc cctagggctg ttctgttggt 120  
 gttcctcatg tttctgccta tgctgcccgc gccaccggcc ggtcagccgt ctggccgctg 180  
 ccgtgggcgg cgcagcggcg gtgcggcg tggtttctgg agtgacaggg ttgattctca 240  
 gcccttcgcc ctcccctata ttcattcaac caaccccttc gccgccgatg tcgtttc 297

<210> 236  
 <211> 300  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 3p Consensus shown in Figure 9B

<220>  
 <221> variation  
 <222> (1)..(300)  
 <223> The nucleotide identity of each n is indicated in  
 Figure 9B

<400> 236  
 acngagncnn tnaancnnt nctnganntn acanantcna tnntnnnnncg gnnngaattga 60  
 ataacatgtn ntttgcnncg cccatgggnt nnnnaccatg cgccctnggn ctnttntgnt 120  
 gntgntcctc ntgtttntgc ctatnttgcc cgcgccaccg nccggtcagc cgtctggccg 180  
 ncgncgtggg cggcgcagcg gcggtnccgg cggtggtttc tggngtgacn gggttgattc 240  
 tcagcccttc gcntccctt atattcatcc aaccaacccc ttngcncng angtnnnnnc 300

<210> 237  
 <211> 250  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 3p.pile {hpea} shown in Figure 9C

<400> 237  
 agcgcttacc ctgtttaacc ttgctgacac cctgcttggc ggtctaccga cagaattgat 60  
 ttgctcggct ggtggccagc tgttctactc tcgccccgtc gtctcagcca atggcgagcc 120  
 gactgttaag ctgtatacat ctgtggagaa tgctcagcag gataagggtta ttgcaatccc 180  
 gcatgacatc gacctcgggg aatcccgtgt agttattcag gattatgaca accaacaatga 240  
 gcaggaccga 250

<210> 238  
 <211> 250  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 3p.pile {hpeuigh} shown in Figure 9C

<400> 238

agcgcttacc ctgtttaacc ttgctgacac cctgcttggc ggtctaccga cagaattgat 60  
 ttcgctgggt ggtggccagc tgttctactc tcgccccgtc gtctcagcca atggcgagcc 120  
 gactgttaag ctgtatacat ctgtagagaa tgctcagcag gataagggtg ttgcaatccc 180  
 gcatgacatc gacctcgggg aatctcgagt tgttattcag gattatgaca accaacaatga 240  
 gcaggaccgg 250

<210> 239  
 <211> 250  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 3p.pile {hpesvp} shown in Figure 9C

<400> 239  
 agccctcacc ctgttcaacc ttgctgacac tctgcttggc ggcttgccga cagaattgat 60  
 ttcgctgggt ggtggccagc tgttctactc ccgtcccgtt gtctcagcca atggcgagcc 120  
 gactgttaag ttgtatacat ctgtagagaa tgctcagcag gataagggtg ttgcaatccc 180  
 gcatgacatt gacctcggag aatctcgtgt gggtattcag gattatgata accaacaatga 240  
 acaagatcgg 250

<210> 240  
 <211> 250  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> 3p.pile {hpenssp} shown in Figure 9C

<400> 240  
 agctctaaca ttacttaacc ttgctgacac gctcctcggc gggctcccga cagaattaat 60  
 ttcgctgggt ggcgggcaac tgttttattc ccgcccgggt gtctcagcca atggcgagcc 120  
 aaccgtgaag ctctatacat cagtggagaa tgctcagcag gataagggtg ttgctatccc 180  
 ccacgatatc gatcttggtg attcgcgtgt gggtattcag gattatgaca accagcatga 240  
 gcaggatcgg 250

<210> 241  
 <211> 250  
 <212> DNA  
 <213> Hepatitis E virus

<220>

<223> 3p.pile {840453p} shown in Figure 9C

<400> 241

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tgccctgact ctgtttaatc ttgetgatac gcttcttggt ggtttaccga cagaattgat 60
ttcgtcggct ggggggtcaac tgttttactc ccgccctgtt cagaattgat ttcgtcggct 120
gggggtcaac tgttttactc ccgccctgtt tgcgcagcaa gacaaggga tcaccattcc 180
acacgacata gatttaggtg actcccgtgt gggtatccag gattatgata accagcacga 240
acaagatcga

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250

<210> 242

<211> 250

<212> DNA

<213> Hepatitis E virus

<220>

<223> 3p Consensus shown in Figure 9C

<220>

<221> variation

<222> ()..(250)

<223> The nucleotide identity of each n is indicated in Figure 9C

<400> 242

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ngcncnacb ntnntnaanc ttgetganac nctnctnggn ggnntnccga cagaattnat 60
ttcgtcggct ggnggncanc tgttntantc ncgncngtn gtctcngcca atggcgagcc 120
nacngtnaag ntntanacat cngtngagaa tgcncagcan ganaagggnn tnnonatancc 180
ncanganatn ganntnggng antcncngt ngtnatncag gattatgana accancanga 240
ncangancgn

```

250

<210> 243

<211> 418

<212> DNA

<213> Hepatitis E virus

<220>

<223> Aulol-wlabolpl.pat

<220>

<221> CDS

<222> (3)..(416)

<400> 243

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ct ggc aty act act gcy att gag caa gct gct ctg gct gcg gcc aat 47
  Gly Xaa Thr Thr Xaa Ile Glu Gln Ala Ala Leu Ala Ala Ala Asn
    1             5             10             15

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tct gcc ttg gcg aat gct gtg gtg gtt cgg ccg ttt tta tcc cgt gtg	95
Ser Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Val	
20 25 30	
cag act gag atc ctt att aac ttg atg caa cct cgg cag ctg gtg ttc	143
Gln Thr Glu Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe	
35 40 45	
cga cct gag gtg ctt tgg aat cat ccc att cag cgg gtt atc cat aat	191
Arg Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn	
50 55 60	
gag tta gaa caa tac tgc cgg gcc cgg gcc ggc cgt tgc cta gag gtg	239
Glu Leu Glu Gln Tyr Cys Arg Ala Arg Ala Gly Arg Cys Leu Glu Val	
65 70 75	
ggg gcc cac cca agg tcc att aac gat aac ccc aat gtt ttg cac cgg	287
Gly Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg	
80 85 90 95	
tgt ttt ctg cga ccg gtc ggg agg gat gtt cag cgc tgg tac tct gcc	335
Cys Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala	
100 105 110	
ccc acc cgc ggc cct gcg gct aac tgc cgc cgc tcc gct ttg cgt ggc	383
Pro Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly	
115 120 125	
ctt ccc ccc gtc gac cgc act tac tgt yty gat gg	418
Leu Pro Pro Val Asp Arg Thr Tyr Cys Xaa Asp	
130 135	
<210> 244	
<211> 138	
<212> PRT	
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1 5 10 15	
Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Val Gln	
20 25 30	
Thr Glu Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe Arg	
35 40 45	
Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn Glu	
50 55 60	
Leu Glu Gln Tyr Cys Arg Ala Arg Ala Gly Arg Cys Leu Glu Val Gly	
65 70 75 80	
Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg Cys	
85 90 95	

Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala Pro  
 100 105 110

Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly Leu  
 115 120 125

Pro Pro Val Asp Arg Thr Tyr Cys Xaa Asp  
 130 135

<210> 245  
 <211> 197  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> Aulo2-wlao2.pat

<220>  
 <221> CDS  
 <222> (2) .. (196)

<400> 245  
 g aca gaa ttr att tcg tcg gct ggg gga cag tta ttc tac tcc cgc cct 49  
 Thr Glu Xaa Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro  
 1 5 10 15

gty gtc tca gcc aat ggc gag ccg act gtt aaa tta tat aca tct gta 97  
 Xaa Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val  
 20 25 30

gag aat gcg cag cag gac aag ggg att gcc atc cca cat gat ata gat 145  
 Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp  
 35 40 45

ctg ggc gac tct cgt gtg gtg atc cag gat tat gay aac car cay gaa 193  
 Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Xaa Asn Xaa Xaa Glu  
 50 55 60

caa g 197  
 Gln  
 65

<210> 246  
 <211> 65  
 <212> PRT  
 <213> Hepatitis E virus

<400> 246  
 Thr Glu Xaa Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro  
 1 5 10 15

Xaa Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val  
 20 25 30

Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp

35

40

45

Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Xaa Asn Xaa Xaa Glu  
 50 55 60

Gln  
 65

&lt;210&gt; 247

&lt;211&gt; 418

&lt;212&gt; DNA

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; Arl01- f73olpl.pat

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (3)..(416)

&lt;400&gt; 247

ct ggc aty act act gcy att gag caa gct gct ctg gct gcg gcc aac 47  
 Gly Xaa Thr Thr Xaa Ile Glu Gln Ala Ala Leu Ala Ala Ala Asn  
 1 5 10 15

tct gcc ttg gcg aat gct gtg gtg gtt cgg ccg ttt tta tcc cgt gtg 95  
 Ser Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Val  
 20 25 30

cag acc gag att ctt att aac cta atg caa ccc cgg cag ctg gtt ttt 143  
 Gln Thr Glu Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe  
 35 40 45

cgt cct gag gtg ctt tgg aac cat cct atc cag cgg gtt att cat aat 191  
 Arg Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn  
 50 55 60

gag tta gaa cag tac tgt cgg gct cgg gct ggt cgc tgc cta gag gtc 239  
 Glu Leu Glu Gln Tyr Cys Arg Ala Arg Ala Gly Arg Cys Leu Glu Val  
 65 70 75

ggg gcc cac cca agg tcc att aat gat aac cct aat gtt ttg cac cgg 287  
 Gly Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg  
 80 85 90 95

tgc ttc cta cga cca gtc ggg agg gat gtt caa cgt tgg tat tcc gcc 335  
 Cys Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala  
 100 105 110

ccc acc cgc ggt cct gct gcc aac tgc cgc cgt tcc gct ctg cgc ggc 383  
 Pro Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly  
 115 120 125

ctc cct ccc gtc gac cgc act tac tgt yty gat gg 418  
 Leu Pro Pro Val Asp Arg Thr Tyr Cys Xaa Asp  
 130 135

<210> 248  
 <211> 138  
 <212> PRT  
 <213> Hepatitis E virus

<400> 248  
 Gly Xaa Thr Thr Xaa Ile Glu Gln Ala Ala Leu Ala Ala Ala Asn Ser  
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 Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Val Gln  
                     20                    25                    30  
 Thr Glu Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe Arg  
             35                    40                    45  
 Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn Glu  
             50                    55                    60  
 Leu Glu Gln Tyr Cys Arg Ala Arg Ala Gly Arg Cys Leu Glu Val Gly  
             65                    70                    75                    80  
 Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg Cys  
                     85                    90                    95  
 Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala Pro  
                     100                    105                    110  
 Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly Leu  
             115                    120                    125  
 Pro Pro Val Asp Arg Thr Tyr Cys Xaa Asp  
             130                    135

<210> 249  
 <211> 145  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> Arl-f73o2p2.pat

<220>  
 <221> CDS  
 <222> (1)..(144)

<400> 249  
 gty gtc tcr gcc aat ggc gag ccg act gtt aag cta tat aca tct gta   48  
 Xaa Val Xaa Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val  
     1                    5                    10                    15  
 gag aac gcg cag cag gat aaa ggg atc gcc att cca cac gat ata gat   96  
 Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp  
                     20                    25                    30

<400>	251
ct ggc aty act act gcy att gag caa gct gct ctg gct gcg gct aac	47
Gly Xaa Thr Thr Xaa Ile Glu Gln Ala Ala Leu Ala Ala Ala Asn	
1 5 10 15	
tct gcc ttg gcg aat gct gtg gtg gtt cgg ccg ttt cta tcc cgt gtg	95
Ser Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Val	
20 25 30	
cag act gag atc ctt att aac tta atg car ccc cgg car ctg gtt ttc	143
Gln Thr Glu Ile Leu Ile Asn Leu Met Xaa Pro Arg Xaa Leu Val Phe	
35 40 45	
cgt ccc gag gtg ctt tgg aat cat ccc att caa cgg gtt att cat aat	191
Arg Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn	
50 55 60	
gaa tta gag cag tac tgc cgg acc cgg gct ggc cgt tgt tta gag gtc	239
Glu Leu Glu Gln Tyr Cys Arg Thr Arg Ala Gly Arg Cys Leu Glu Val	
65 70 75	
gga gcc cat cca agg tcc att aat gac aac cct aac gtt cyg cac cgg	287
Gly Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Xaa His Arg	
80 85 90 95	

tgc ttc tta cga cca gtc ggg agg gat gtc caa cga tgg tac tca gcc 335  
 Cys Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala  
                   100                  105                  110

ccc act cgc ggc cct gcg gct aat tgc cgt cgt tcc gct ttg cgt ggt 383  
 Pro Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly  
                   115                  120                  125

ctc cct cct gtc gac cgc act tac tgt yty gat gg 418  
 Leu Pro Pro Val Asp Arg Thr Tyr Cys Xaa Asp  
                   130                  135

<210> 252

<211> 138

<212> PRT

<213> Hepatitis E virus

<400> 252

Gly Xaa Thr Thr Xaa Ile Glu Gln Ala Ala Leu Ala Ala Ala Asn Ser  
   1                  5                  10                  15

Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Val Gln  
                   20                  25                  30

Thr Glu Ile Leu Ile Asn Leu Met Xaa Pro Arg Xaa Leu Val Phe Arg  
                   35                  40                  45

Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn Glu  
                   50                  55                  60

Leu Glu Gln Tyr Cys Arg Thr Arg Ala Gly Arg Cys Leu Glu Val Gly  
   65                  70                  75                  80

Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Xaa His Arg Cys  
                   85                  90                  95

Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala Pro  
                   100                  105                  110

Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly Leu  
                   115                  120                  125

Pro Pro Val Asp Arg Thr Tyr Cys Xaa Asp  
                   130                  135

<210> 253

<211> 197

<212> DNA

<213> Hepatitis E virus

<220>

<223> Ar2o2-f7702.pat

<220>

&lt;221&gt; CDS

&lt;222&gt; (2) .. (196)

&lt;400&gt; 253

g aca gaa ttr att tcg tcg gct ggg ggt cag ttg ttt tac tcc cgc cct 49  
 Thr Glu Xaa Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro

1

5

10

15

gtc gtc tca gcc aat ggc gag ccg act gtt aag ttg tat aca tct gtg 97  
 Val Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val

20

25

30

gag aat gcg cag cag gat aaa gga atc gcc atc cca cac gac ata gat 145  
 Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp

35

40

45

ctg ggc gat tcc cgt gtg gtt att cag gat tat gay aac car cay gaa 193  
 Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Xaa Asn Xaa Xaa Glu

50

55

60

caa g 197  
 Gln  
 65

&lt;210&gt; 254

&lt;211&gt; 65

&lt;212&gt; PRT

&lt;213&gt; Hepatitis E virus

&lt;400&gt; 254

Thr Glu Xaa Ile Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro  
 1 5 10 15

Val Val Ser Ala Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val  
 20 25 30

Glu Asn Ala Gln Gln Asp Lys Gly Ile Ala Ile Pro His Asp Ile Asp  
 35 40 45

Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Xaa Asn Xaa Xaa Glu  
 50 55 60

Gln  
 65

&lt;210&gt; 255

&lt;211&gt; 23

&lt;212&gt; DNA

&lt;213&gt; Hepatitis E virus

&lt;220&gt;

&lt;223&gt; HEVConsORF 1N-a1

&lt;400&gt; 255

ccrtrarrc artaggtgcg gtc

<210> 256  
 <211> 25  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> HEVConsORF 2N-a1

<400> 256  
 cytgytcrtg ytggttrtca taatc

25

<210> 257  
 <211> 21  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> HEVConsORF 1N-s2

<400> 257  
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21

<210> 258  
 <211> 25  
 <212> DNA  
 <213> Hepatitis E virus

<220>  
 <223> HEVConsORF 2N-a2

<400> 258  
 gytcrtygtg rtttrtcataa tcctg

25